



VALERO REFINING COMPANY - CALIFORNIA

BENICIA REFINERY

OIL SPILL CONTINGENCY PLAN



OIL SPILL CONTINGENCY PLAN

BENICIA REFINERY

3400 East Second Street

Benicia, California 94510

USCG Reference No.:	MSD 00002
EPA Reference No.:	FRP 09A0105
CA OSPR Reference No.:	F2-48-0244
<u>US DOT PHMSA</u>	<u>1457</u>
COFR No.	21586-00-001

CC: VINCE

Record of Changes

Change Number	Effective Date	Scope of Revision	Person Entering Change	Date Entered
1	July 2000	Initial Issue of Plan for Valero Refining Co. – California Benicia Refinery	D. Pearce	7/2000
2	November 2000	Update reflecting USCG comments (Section 210, 232, 514, & 522)	D. Pearce	11/2000
3	July 2001	Update incorporating former Huntway Asphalt Plant and Marine Terminal facility information	G. Karr	7/2001
4	2002	Annual review and update	G. Karr	12/2002
5	2003	Annual review and update	N. Stubblefield	12/2003
6	November 2004	2004 Annual review and update, Revised information reflecting RSPA comments (Section 210, 220, 230, 250, 400, 500, and 600)	N. Stubblefield	11/2004
7	July 2005	Update per RSPA Comments (Table 400-1a, and Sections 514, 631)	N. Stubblefield	7/2005
8	December 2005	Update of plan for 5 yr Re-submittal per OSPR Regulations ; update to address OSPR Inspection comments	N. Stubblefield	12/2005
9	March 2006	Update to Facility Information per USCG inspection comments	N. Stubblefield	3/2006
10	July 2006	Updated notification table format	P. Gonzalez	7/2006
11	December 2006	Annual Update	N. Stubblefield	01/2007
12	September 2007	Update for change in OSRO to NRC Environmental Services	N. Stubblefield	09/2007
13	January 2008	Annual review and update Submittal to OSPR for Recertification (Sect. 115, 210,233,242,244,252,400,530, App. E, H)	N. Stubblefield	01/2008
14	April 2008	Update Inside Cover,	N. Stubblefield	0-4/2008
15	September 2009	Updated App. C Ref.-Spill Response Equipment	P. Gonzales	9/2008
16	December 2008	Updated App.A Attached. A- Drawings	P. Gonzales	12/2008
17	February 2009	EPA updated for WCD	N. Stubblefield	02/2009
18	Jan 2010	Update QI Listing pg 230-3	Schneider	1/2010
19	Sept. 2010	Update CAL OES to CAL EMA	C. Weber	9/2010

Record of Changes

Change Number	Effective Date	Scope of Revision	Person Entering Change	Date Entered
20	Jan 2014	DOT PHMSA Letter of Corrections	Witt O'Brien's	1/2014
21				
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The following documents are incorporated into and made part of this Oil Spill Contingency Plan. Each of these references contains subject matter and/or information that is required or pertinent to oil spill response, prevention, or preparedness for this facility. The reference documents may be available upon request from contacting the Benicia Refinery.

- Benicia Refinery Pipelines Operations and Maintenance Manual
- Dock Operations Manual

- DOT Pipelines Operations and Maintenance Manual

- Emergency Procedures, Benicia Refinery
- Marketing Terminal Emergency Response Plan
- Oil Movements Dock and Post 14 Operators Manual
- Oil Movements Post 13 Operators Manual
- Oil Spill Personnel Protection Equipment Decontamination Guidelines
- Valero Refining Co. – California – Incident Response Guidebook
- Public Affairs Emergency Response Plan

REGULATORY CROSS INDICES

In recognizing the jurisdictional boundaries, cross-reference indexes have been included to facilitate the regulatory review process. These following tables, identify the applicable locations in this plan which provides information relating to regulatory requirements.

Table A	USCG 33 CFR 154
Table B	DOT 49 CFR 194
Table C	EPA 40 CFR 112
Table D	OSPR Title 14 CCR §817.02. and other reference sections

TABLE A. CROSS INDEX TO U.S. COAST GUARD FACILITY RESPONSE PLAN REQUIREMENTS.

USCG 33 CFR 154.1035 ^{a)}		Location in this Plan
(a)	Introduction and Plan Content	100
(b)	Emergency Response Action Plan	200
	(1) Notification Procedures	210
	(2) Facility's spill mitigation procedures	220
	(3) Facility's response activities	220, 240, Appendix F
	(4) Sensitive areas	260
	(5) Disposal Plan	270
(c)	Hazard Evaluation	300
(d)	Discussion of Spill Scenarios	400
(e)	Training and Drills	500
	(1) Training procedures	510
	(2) Drill procedures	520
(f)	Plan Review and Update Procedures	600
(g)	Appendices	
	(1) Facility-specific information	Appendix A
	(2) List of contacts	<u>210, Appendix B</u>
	(3) Equipment lists and records	Appendix C, D
	(4) Communications plan	Appendix E
	(5) Site-specific safety and health plan	Appendix G
	(6) List of acronyms and definitions	Appendix H

TABLE B. CROSS INDEX TO DOT (RSPA) 49 CFR 194.107.

	<u>49 CFR</u>	<u>Location in this Plan</u>
194.107(c)	NCP/ACP Consistence	110
194.107(d)(1)(i)	Information Summary	133
194.107(d)(1)(ii)	Immediate Notification Procedures	210
194.107(d)(1)(iii)	Spill Detection and Mitigation Procedures	220
194.107(d)(1)(iv)	Oil Spill Response Organizations	250, Appendix C
194.107(d)(1)(v)	Response Activities and Resources	220, Appendix C
194.107(d)(1)(vi)	Names and Phone Numbers of Regulatory Agencies	210, Appendix B
194.107(d)(1)(vii)	Training Procedures	500
194.107(d)(1)(viii)	Equipment Testing	Appendix A
194.107(d)(1)(ix)	Drill Types, Schedules and Procedures	500
194.107(d)(1)(x)	Plan Review and Update Procedures	600

TABLE C. CROSS INDEX TO EPA 40 CFR 112.

<u>EPA 40 CFR 112</u>		<u>Location in this Plan</u>	<u>RRM</u>
1.0	Standard Facility-Specific Response Plan		
1.1	Emergency Response Action Plan	210-270	
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1.1.2	Emergency Notification Phone List	210	
1.1.3	Spill Response Notification Form	210	
1.1.4	Equipment List and Location	250, Appendix C	302, 500
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1.1.6	Evacuation Plan	243	
1.1.7	Immediate Actions	220	100, 104, 500
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1.2	Facility Information	130, Appendix A	
1.3	Emergency Response Information	130, 210, Appendix A	
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1.4.4	Spill History	312	

TABLE C. CROSS INDEX TO EPA 40 CFR 112 (CONTINUED).

<u>EPA 40 CFR 112</u>		<u>Location in this Plan</u>	<u>RRM</u>
1.5	Discharge Scenarios	420	
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1.6.1	Discharge Detection by Personnel	220, Appendix A	
1.6.2	Automated Discharge Detection	220, Appendix A	
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1.7.2	Containment and Drainage Planning	Appendix A	
1.8	Self-Inspection, Training, and Meeting Logs	500, Appendix A	
1.8.1	Facility Self-Inspection	Appendix A	
1.8.1.1	Tank Inspection	Appendix A	
1.8.1.2	Response Equipment Inspection	Appendix A	
1.8.1.3	Secondary Containment Inspection	Appendix A	
1.8.2	Mock Alert Drills	520, 530	400
1.8.2.1	Mock Alert Drill Logs	540	400
1.8.3	Training and Meeting Logs	510	400
1.8.3.1	Personnel Training Logs	510	400
1.8.3.2	Discharge Prevention Meetings Log	500	
1.9	Diagrams	130, Appendix A	
1.10	Security	236.9, Appendix A	
2.0	Response Plan Cover Sheet	Table of Contents	
3.0	Definitions	Appendix H	
4.0	Acronyms	Appendix H	

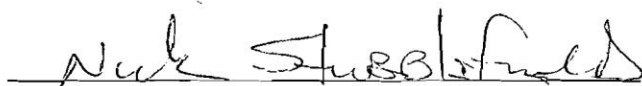
EPA RESPONSE PLAN COVERSHEET AND INFORMATION

General Information	
Owner / Operator of Facility:	Valero Energy Corporation One Valero Place San Antonio, TX 78212
Facility Name:	Valero Refining Co. – California, Benicia Refinery
Facility Address:	3400 E. Second St. , Benicia, CA 94510
Facility Phone Number:	(24-hour) (707) 745-7011 (fax) (707) 745-7514
Latitude and Longitude:	(b) (7)(F)
Dun and Bradstreet Number:	04-365-2424
Standard Industrial Classification (SIC) Code:	0291
Largest Oil Storage Tank Capacity:	(b) (7)(F)
Maximum Oil Storage Capacity:	(b) (7)(F)
Number of Oil Storage Tanks:	89
Worst Case Discharge Amount:	(b) (7)(F)
Facility Distance to Navigable Waters:	0 - 1/4 nm.
Applicability of Substantial Harm Criteria	
Does the facility transfer oil over-water to or from vessels and does the facility have a total oil storage capacity greater than or equal to 42,000 gallons?	YES
Does the facility have a total oil storage capacity of greater than or equal to 1 million gallons and does the facility lack secondary containment that is sufficiently large to contain the capacity of the largest aboveground oil storage tank plus sufficient freeboard to allow for precipitation within any aboveground oil storage tank area?	NO
Does the facility have a total oil storage capacity of greater than or equal to 1 million gallons and is the facility located at a distance such that a discharge from the facility could cause injury to fish and wildlife and sensitive environments?	YES
Does the facility have a total oil storage capacity of greater than or equal to 1 million gallons and is the facility located at a distance such that a discharge from the facility would shut down a public drinking water intake?	NO
Does the facility have a total oil storage capacity of greater than or equal to 1 million gallons and has the facility experienced a reportable oil spill in an amount greater than or equal to 10,000 gallons within the last 5 years?	NO

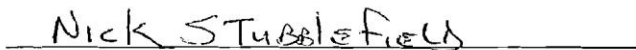
EPA RESPONSE PLAN COVERSHEET AND INFORMATION – CONTINUED

BENICIA REFINERY**EPA CERTIFICATION**

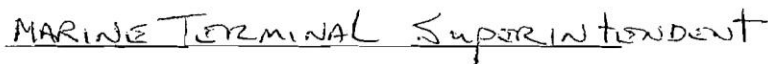
I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document, and that based on my inquiry of those individuals responsible for obtaining information, I believe that the submitted information is true, accurate, and complete.



Signature



Name



Title



Date



**TABLE D. CROSS INDEX TO
CA OFFICE OF SPILL PREVENTION AND RESPONSE REQUIREMENTS.**

<u>Title 14 CCR 817.02</u>		<u>Location in this Plan</u>	<u>RRM</u>
(a)	Introductory material (1) Facility Information/ Certification Statement/ COFR (2) Qualified Individual (3) Name, address, etc. for agent for service of process (4) Copy of written contract with spill response organization	100, 115 232 131 252	103-105
(b)	Facility description (1) Design and operation (2) Facility site and surrounding area	Appendix A Appendix A	
(c)	Prevention measures (1) Risk and hazard analysis Spill History/ Hazard Analysis (2) Off-site consequence analysis (A) 72 hr trajectory" analysis (B) Discussion of toxic effects (3) Listing of potentially affected sensitive resources (4) Required prevention measures (5) Other leak prevention measures	310 320 260 Appendix A	202 303.2, 306.5 303.2, 303.3, 303.7
(d)	On-water containment and recovery (1) Reasonable worst case spill (RWCS) (2) Persistence and emulsification factors (3) Response capability standards (4) Non-cascadable equipment (5) On-water response equipment and services (6) On-water response and recovery strategies	410 430 440 250, Appendix C 250, Appendix C	302.1 302.1, 500 503 202.3, 302.1, 500 202.3, 302.2, 307, 500, Appendix A
(e)	Shoreline Protection and Cleanup (1) Shoreline response planning volumes (2) Shoreline response equipment and services (3) [Reserved] (4) Shoreline response and cleanup strategies	430 250, Appendix C 240	302.1 303.4, 304.1, 500 303.4-6, 304, Appendices A & B

**TABLE D. CROSS INDEX TO
CA OFFICE OF SPILL PREVENTION AND RESPONSE REQUIREMENTS.**

<u>Title 14 CCR 817.02</u>		<u>Location in this Plan</u>	<u>RRM</u>
(f)	<p>Response procedures</p> <p>(1) Organization of facility response system and management team (ICS)</p> <p>(2) Procedures for establishing command sites</p> <p>(3) Checklist/flow chart/decision tree describing stages of cleanup</p> <p>(4) Provision for Initial emergency services</p> <p>(5) Methods/equipment to minimize spill</p> <p>(6) Methods, equipment, and lines of communication</p> <p>(7) Post spill review (including methods for review)</p> <p>(8) Means to establish exclusion, Decon, & Safe Zones</p> <p>(9) Site Safety Plan</p>	<p>230</p> <p>240</p> <p>240</p> <p>220, 240 220</p> <p>Appendix E</p> <p>240</p> <p>Appendix G</p> <p>Appendix G</p>	<p>301.2</p> <p>301.1</p> <p>301.3</p> <p>301.4, 301.5</p>
(g)	<p>Notification procedures</p> <p>(1) List of contacts</p> <p>(2) Procedure for immediate notification</p> <p>(3) Call-out procedure (resources)</p> <p>(4) Notification Checklist</p> <p>(5) Report not delayed for information</p> <p>(6) Spill Update Reporting</p>	<p>210, Appendix B</p> <p>210</p> <p>210</p> <p>210</p> <p>210</p> <p>210</p>	<p>103</p> <p>103</p>
(h)	<p>Temporary waste storage</p> <p>(1) ID sufficient temporary waste storage</p> <p>(2) ID party to maintain recovered oil and oily waste</p> <p>(3) ID site criteria for selecting temporary storage sites</p> <p>(4) Permits required</p> <p>(5) Methods to expedite state process for permitting</p>	<p>270, Appendix C</p> <p>270</p> <p>270</p> <p>270</p> <p>270</p>	<p>306</p> <p>306</p> <p>306</p> <p>306</p> <p>306</p>
(i)	<p>Wildlife rehabilitation requirements</p> <p>(1) Use of CA OWCN</p> <p>(2) or Description of procedures & resources under contract</p>	<p>210</p>	<p>400</p>

**TABLE D. CROSS INDEX TO
CA OFFICE OF SPILL PREVENTION AND RESPONSE REQUIREMENTS.**

<u>Title 14 CCR 817.02</u>		<u>Location in this Plan</u>	<u>RRM</u>
(j)	Training		400
	(1) Response Equip training	500	
	(2) Operational risk reduction training	500	
	(3) Safety training	500	
	(4) Training Records	500	
(k)	Drills and Exercise		
	(1) Exercise of all plan elements (Exercise of Offsite Consequence Analysis Sites)	520	
	- Notification Drill		
	- Response Equipment Drill		
	- Table Top Exercise		
	(2) Training Substitution	520	
	(3) Response Resource Drills	520	
	(4) Drill Components	520	
	(5) Drill Records	520	

100 INTRODUCTION

Section 100 describes general information on the facility owner/operator and provides a description of the facility location. The subsection include:

- 110 Management Approval, Manpower Authorization, and Certification
- 115 Certificate of Financial Responsibility
- 120 Overview
- 130 Facility Information
- 140 Reference Documents

110 MANAGEMENT APPROVAL, MANPOWER AUTHORIZATION, AND CERTIFICATION

This Plan is approved for implementation as herein described. Manpower, equipment, and materials will be provided as required in accordance with this Plan. Valero refining Company – California is dedicated to protection of the environment and commits to implement the necessary measures, as specified in the Plan, as necessary in a spill response emergency.



I certify to the best of my knowledge and belief, under penalty of perjury under the laws of the State of California, that the information contained in this contingency plan is true and correct and that the plan is both feasible and executable.

Nick Stuebel
Title: MARINE TERMINAL SUPERINTENDENT

11-30-05
Date

115 CERTIFICATE OF FINANCIAL RESPONSIBILITY

A copy of the Facility Certificate of Financial Responsibility is provided in Figure 100-1 on the following sheet.

State of California
Department of Fish & Game
Office of Spill Prevention & Response

Certificate of Financial Responsibility

No.: 21586-00-002 Expires: April 30, 2011

Facility Owner or Operator

VALERO REFINING COMPANY CALIFORNIA

has met the financial responsibility requirements set forth in Government Code Section
8670.37.53 as it applies to the operation of
(Name and Location of Facility)
MARINE TERMINAL

VALERO REFINING COMPANY-CALIF, BENICIA MARINE TERMINAL, BERTH 1

The holder of this certificate is subject to the provisions of California Code of Regulations, Title 14, Sections 791-797, implementing the financial responsibility requirements set forth in the Lempert-Keene-Seastrand Oil Spill Prevention and Response Act (Act), see California Government Code Sections 8670.37.51 through 8670.37.57. Additionally, the holder of this certificate is subject to the conditions on the reverse of this certificate. For the purpose of determining liability pursuant to the Act, this certificate of financial responsibility is conclusive evidence that the person or entity holding the certificate is the party responsible for the specified marine facility.

Date Issued: May 1, 2009

No 22120

Stephen L. Edinger
Administrator, Office of Spill Prevention & Response
Department of Fish & Game

Figure 100-1. Certificate of Financial Responsibility.

120 OVERVIEW

This Oil Spill Contingency Plan (Plan) for the Valero Refining Company - California, Benicia Refinery includes the refinery, marketing terminal, marine terminal (Dock), crude oil and refined products pipelines and associated oil storage tanks, and piping. While these facilities are designed, maintained, and operated to minimize the potential for spills, the potential for spills can never be completely eliminated. This Plan provides a response organization, resources and guidance for the emergency response to oil spills.

The Plan addresses the applicable requirements of the following regulations:

Oil Pollution Act of 1990 (OPA '90)

United States Coast Guard (USCG)

Marine Oil Transfer Facilities

Title 33 Code of Federal Regulations, Part 154.1010

United States Environmental Protection Agency (EPA)

Non-Transportation-Related Onshore Facilities

Title 40 Code of Federal Regulations, Part 112.20

United States Department of Transportation (DOT)

Research and Special Programs Administration (RSPA)

Onshore Oil Pipelines

Title 49 Code of Federal Regulations, Part 194.101

Oil Spill Prevention and Response Act of 1990 (OSPRA)

California Department of Fish and Game (DFG)

Office of Oil Spill Prevention and Response (OSPR)

California Code of Regulations Title 14, Division 1,

Subdivision 4, Chapter 2, Subchapter 3, Section 817.02 and 820.01

In addition to addressing the applicable requirements of the regulations cited above, the Plan has been prepared to maintain consistency with the National Contingency Plan (NCP), the San Francisco Bay/Delta Area Contingency Plan (ACP).

121 Valero Refining Company – California Policy and Management

It is Valero Refining Company – California's policy to conduct its business in a manner that is compatible with the balanced environmental and economic needs of the communities in which it operates. Further, it is the Company's policy to comply with all applicable environmental laws and regulations and apply responsible standards where laws or regulations do not exist. The Company is committed to continuous efforts to improve environmental performance throughout its activities. It will encourage concern and respect for the environment, emphasize every employee's responsibility in environmental performance, and ensure appropriate operating practices and training. The Company will communicate with the public on environmental matters and share its experience with others to facilitate improvements in industry performance.

Valero's goal for operations is zero spillage of oil. However, should a spill occur, response actions described in this Plan will be implemented. Valero will comply with applicable federal, state, and local laws and regulations concerning oil spill response operations.

122 SCOPE AND LIMITATIONS

This Plan provides Valero's Benicia Refinery and associated facilities with an organizational framework and resources for response to oil spills associated with their operations. The organization and resources are designed to permit "scaling-up" as necessary for response to incidents of increasing magnitude and/or complexity. Valero recognizes that each spill incident represents a unique event, and that case-by-case adaptation of response guidelines presented herein may be necessary.

130 FACILITY INFORMATION**131 FACILITY DATA/CONTACTS****REFINERY AND TERMINALS**

Name of Facility: Valero Refining Company – California
 Benicia Refinery
 Street Address: 3400 E. Second Street
 Benicia, California 94510
 County: Solano
 Facility Telephone Number: (707) 745-7011
 FAX Number: (707) 745-7514

Note: This Plan includes the Benicia Marketing Terminal and replaces the separate Plan identified as EPA FRP-09A-0214.

FACILITY OWNER OR OPERATOR

Name: Valero Energy Corporation
 Address: One Valero Way
 San Antonio, TX 78249

24-HOUR CONTACTRefinery

Call: Benicia Refinery Shift Superintendent (QI)
 (707) 745-7562

NAME AND ADDRESS OF THE PERSON TO WHOM CORRESPONDENCE SHOULD BE SENT

Name: Marine Terminal Superintendent
 Address: Valero Refining Co. – California, Benicia Refinery
 3400 E. Second Street
 Benicia, CA 94510

Agent for Service of Process

Mailing Address and
 Street Address: CT Corporation System
 818 West Seventh Street
 Los Angeles, CA 90017
 Phone: (213) 627-8252
 Fax: (213) 614-9347

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132 LOCATION DESCRIPTION

This Plan addresses the operation of the Valero Refining Co. – California, Benicia Refinery facilities which are located as shown in Figure 100-2 and are in Benicia, Solano County, California, with the exception of the submerged pipelines which cross into Contra Costa County.

132.1 BENICIA REFINERY AND MARKETING TERMINAL

For purposes of this Plan, the Benicia Refinery and Marketing Terminal is divided into 4 parcels as shown on Figure 100-2. Parcel 1 contains the main processing units, the marketing terminal, product storage tanks and intermediate processed oil storage tanks. Parcel 2 is designated the Crude Oil Tank Farm, and contains crude oil storage tanks and storage ponds for treated wastewater. Parcel 3 contains the wastewater treatment system, and Parcel 4 houses the diversion tanks. These facilities can be accessed from Highway 780 by proceeding north on East Second Street or from Highway 680 via Lake Herman Road to 2nd Street.

The Asphalt Plant is a part of the Benicia Refinery and is located at 3001 Park Road, Benicia, CA. The facility is on 19 acres of land bordering the principal Benicia Refinery.

The Benicia Asphalt Plant is a topping refinery as defined by 40 CFR §419.10. The refinery is permitted to process up to 3,650,000 barrels of crude oil per rolling consecutive 365-day period (10,000 barrels per day) with a daily maximum capacity of 18,000 barrels of crude oil. The major processing units at the refinery are an atmospheric tower and a vacuum tower. No complex hydrocarbon processing units are located at the refinery such as hydrotreating, visbreaking, coking, thermal or catalytic cracking (i.e., the facility just "boils crude oil"). This lack of complexity minimizes the types, toxicity and mobility of the wastes generated at the plant. The refinery's primary commercial product is paving asphalt. Light distillates, naphtha, kerosene, and gas oil are secondary products that are sold to other refiners for further processing.

Additional information on the general facility and its layout is provided in Appendix A and in the the Spill Control and Countermeasures Plan.

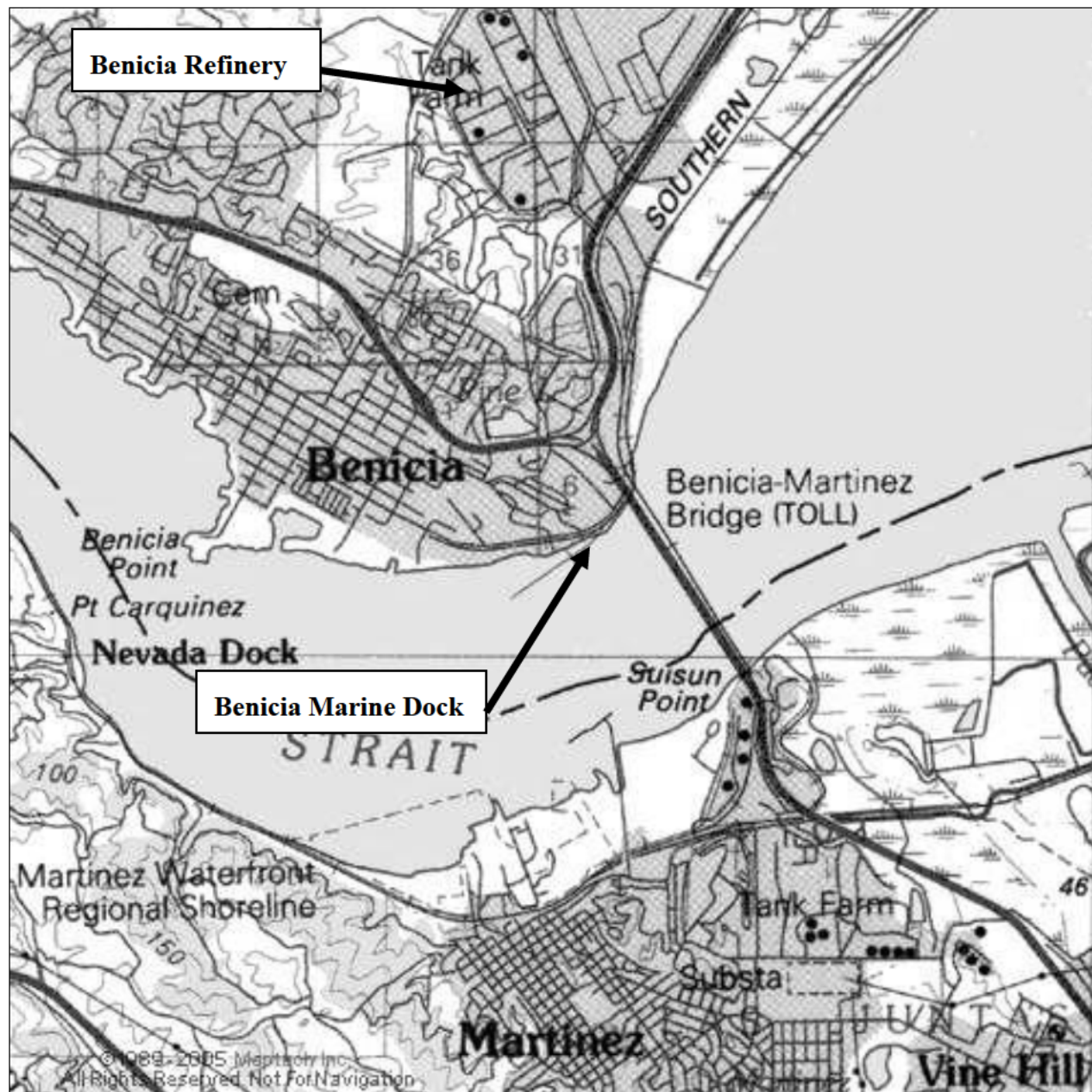


Figure 100-2. Facility Location.

132.2 VALERO BENICIA DOCK

The dock facilities are identified as Parcel 5 on Figure 100-2.

The coordinates of Berth 1 - Crude/Product Dock are:

(b) (7)(F)

A large black rectangular redaction box covers the majority of the text in this section, starting below the redaction code and extending to the right margin.

The Crude/Product Dock is situated on the north side of the Carquinez Strait immediately to the west of the Highway 680 Bridge (Army Point). It can be accessed by land from 780 by taking the E. 5th Street exit to the south, proceeding left on Military East to Adams Street, and turning left on Bayshore Road.

The dock is designed to handle crude tankers one at a time ranging from T-2 (17,000 dead weight tons (DWT) to 211,000 DWT. The depth along side of the dock ranges from 32 to 42 feet at mean low water; consequently, some of the larger ships must be lightered to enable them to reduce their draft enough to come into Benicia.

132.3 PIPELINES

A 6-inch Transbay and 20-inch multi-purpose pipelines extend northeast from the marine terminal to northeast of the Highway 680 bridge where they turn south across the Carquinez Strait. The 6-inch pipeline terminates at Bulls Head Point while the 20-inch pipeline continues south to connect with the existing Shell refinery and Avon Meter Station.

133 DOT INFORMATION SUMMARY

Name and Address of Operator:	Valero Refining Company – California 3400 East 2nd Street Benicia, CA 94510
Response Zone Description:	Contra Costa and Solano Counties, CA: The covered pipelines begin at the terminus of the Equilon Pipeline and terminate at the Valero Benicia Refinery/ Marine Terminal. The lines cross the Carquinez Strait between Suisun and San Pablo Bays at the northeast edge of San Francisco Bay.
Qualified Individuals:	Benicia Refinery Shift Superintendent (707) 745-7562 (24 hrs./day) Current listing of Qualified Individuals
Response Zone Description:	(Refer to Figure 230-1) The covered pipelines are included in a single response zone. See description above. The covered pipelines run from Martinez, CA to Benicia, CA, and generally follow I-680, with an underwater crossing of the Carquinez Strait approximately 200' east of the Southern Pacific Railroad bridge between Martinez and Benicia.
Line Sections within the Zone:	The entire length of the covered pipelines is within the single described zone. (See Figure 100-2 for a routing diagram and vicinity map.)
Significant and Substantial Harm Criteria:	The operator believes, based on current understanding of applicable regulations, that the Worst Case Discharge as calculated would meet the criteria for "significant and substantial harm" for a discharge into the Carquinez Strait.
Type of Oil and Volume of WCD:	36 inch Crude Line from (b) (7)(F) ve San Joaquin Valley (SJV), OCS, or ANS Crude Oil (b) (7)(F)

140 REFERENCE DOCUMENTS

This Plan also incorporates information from the latest edition of the Area Contingency Plan (ACP) by reference.

In addition, Valero maintains a variety of operation and procedure-specific manuals and associated documents. These manuals may be consulted for additional detail and include:

- Emergency Procedures, Benicia Refinery
- Valero Refining Co. – California
Benicia Refinery Incident Response Guidebook (FOG)
- Spill Prevention, Control, and Countermeasures Plan (SPCC)
- Public Affairs Emergency Response Plan
- DOT Pipelines Operations and Maintenance Manual
- Oil Movements Post 12 & 13 Operator's Manual
- Oil Movements Dock and Post 14 Operator's Manual
- Dock Operations Manual
- Benicia Marketing Terminal Emergency Response Action Plan

200 EMERGENCY RESPONSE ACTION PLAN

Section 200 describes the procedures for notification of oil spill emergency response organizations, emergency response personnel and activities, and supplemental guidance for response. The subsections include:

- 210 Emergency Response Information/ Notification Procedures
- 220 Spill Mitigation & Response Checklist
- 230 Spill Response Organization

- 240 Response Strategies

- 250 Response Resources
- 260 Sensitive Resources
- 270 Waste Disposal Plan

210 NOTIFICATION PROCEDURES/ EMERGENCY RESPONSES INFORMATION

**INITIAL NOTIFICATIONS
SHOULD NOT BE DELAYED
PENDING COLLECTION OF
ALL INFORMATION.**

**BY LAW, ANY AMOUNT OF
OIL DISCHARGED TO
MARINE WATERS MUST BE
REPORTED.**

**IF YOU DISCOVER ANY OIL SPILL, OR THREAT OF A SPILL,
IMMEDIATELY NOTIFY THE QUALIFIED INDIVIDUAL (QI):**

(Qualified Individual on Call)

**BENICIA REFINERY
SHIFT SUPERINTENDENT:**

- ☐ (707) 745-7011
- ☐ (707) 745-7562
- ☐ REFINERY EMERGENCY No. EXTENSION 2222
- ☐ REFINERY PROCESS RADIO

VIA ANY REFINERY TECHNICIAN

IN THE EVENT OF FIRE OR EXPLOSION

Benicia Fire Department..... 911 or (707) 745-2424

Benicia Police Department 911 or (707) 745-3412

Reports must be made to the California Emergency Management Agency (CEMA), the National Response Center (NRC) and appropriate local agencies in the order listed in the Agency Call-out List (See Table 210-2) *Initial contact to California EMA and NRC must be made no later than 30 minutes from the discovery of the spill, or of threatened discharge of oil. Follow up contacts with NRC and California EMA authorities should be made at intervals of no less than once per shift (not less than once per 12 hours in the first 48 hours.)*

Certain information on the discharge should be provided in the notification calls, whether internal or to regulatory agencies. The flow sheet/checklists provided in Figures 210-1 and 210-2 have been developed to assist in the collection and presentation of critical data on the incident. These flow sheets/checklists address notification sequences for spills to land and spills to water, respectively. Under emergency conditions, it may not be possible to collect all of the required information.

FIGURE 210-1.SPILL RESPONSE NOTIFICATION CHART - WATER OIL SPILL

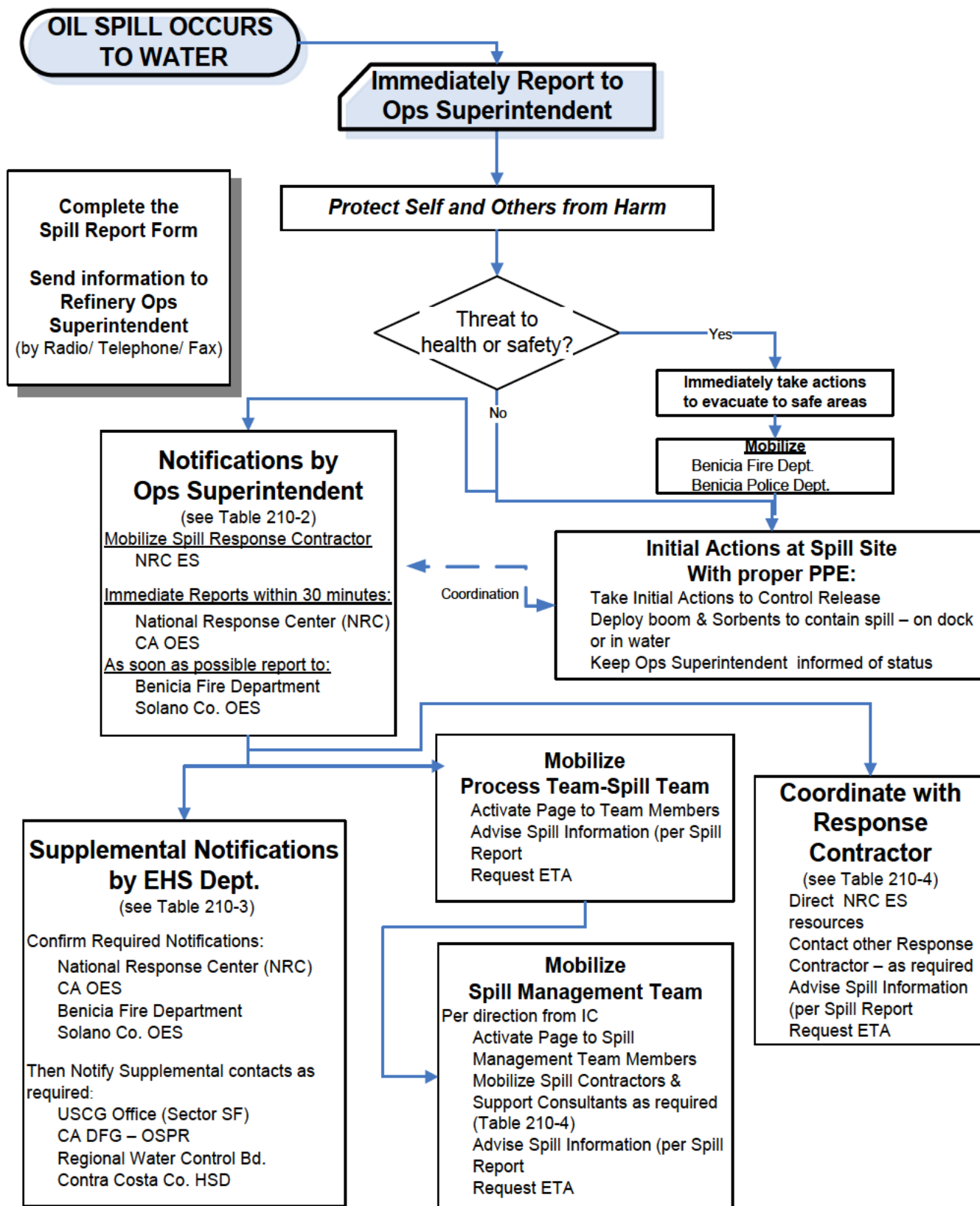


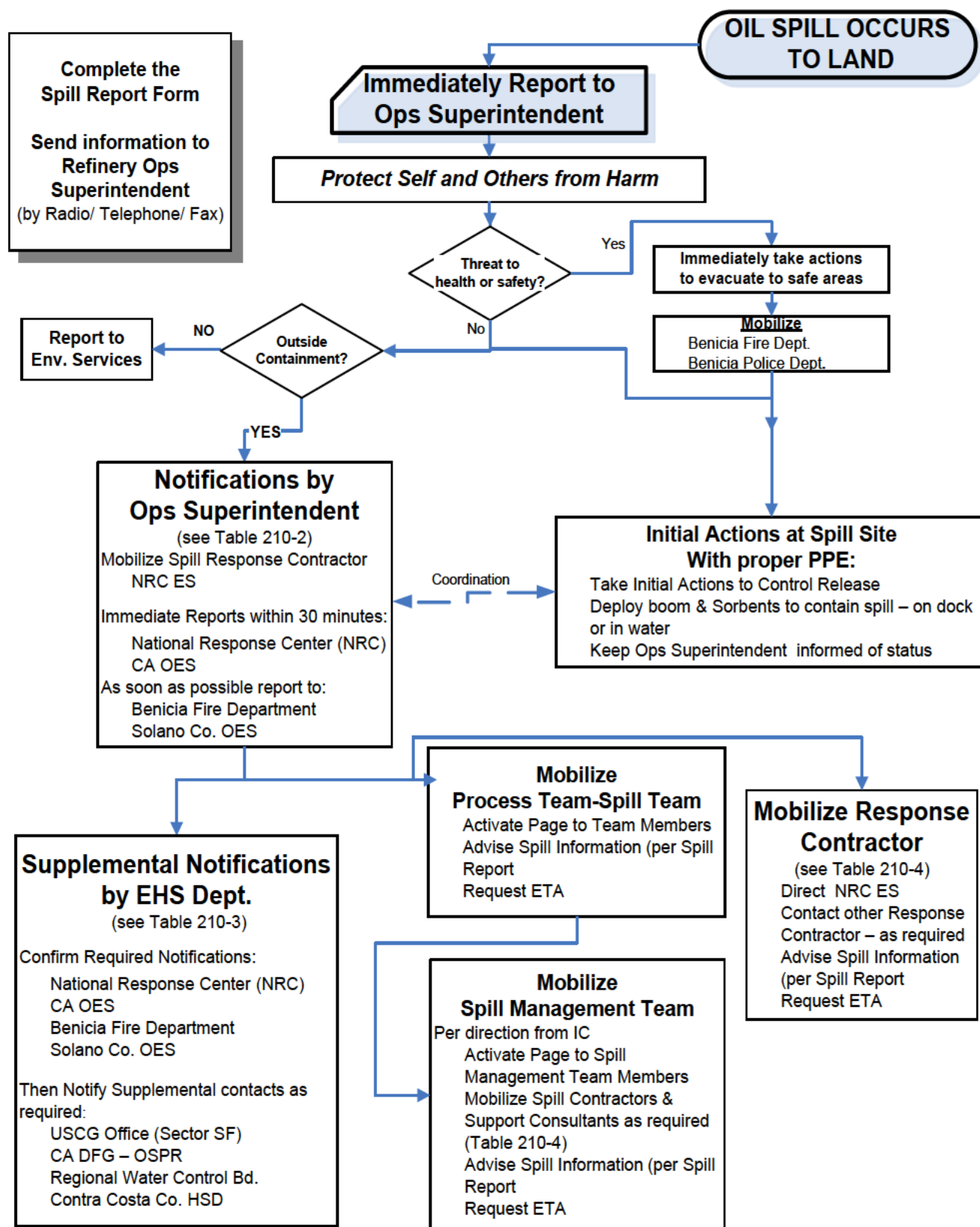
FIGURE 210-2.SPILL RESPONSE NOTIFICATION CHART – ON LAND OIL SPILL**TABLE 210-1. SPILL RESPONSE NOTIFICATION FORM – OIL SPILL**

TABLE 210-1. SPILL RESPONSE NOTIFICATION FORM – OIL SPILL

Do not delay notification pending collection of all information requested on this sheet.				
Fill out this form as completely as possible before notifying agencies. The National Response Center (NRC) will be requesting the information listed below. When reporting information, be as concise and accurate as possible.				
Caller's Name / Title:				
Caller's Phone Number:				
Calling for:		Valero Benicia Refinery		
GPS Coordinates (Dock)		(b) (7)(F)		
Mailing Address:		3400 East Second St., Benicia, CA 94510		
24 hr. Telephone Number:		(707) 745-7562 (24 hr.)		
Incident Occurred or was Discovered:		Date:	Time:	
Specific Location of the Incident:				
Name of Material Spilled or Released:				
Source of the Spilled or Released Material:				
Cause of Release (i.e., Rupture, Blowout, Valve Failure, Fire, Etc.):				
Pipeline Section/Segment, Tank Number or Other Identifying Information:				
Total Quantity Discharged (Estimated) in Gallons or Barrels:				
Released to	<input type="checkbox"/> Air	<input type="checkbox"/> Ground	<input type="checkbox"/> Water	<input type="checkbox"/> Subsurface
(circle one or more)				
Amount Spilled into Water (Estimated) in Gallons or Barrels:				
Appearance of Any Slick (Size, Direction and Speed of Travel):				
Weather Conditions (Sea State, Wind Speed/Direction, Precipitation, Visibility):				
Remedial Actions Taken or Planned (Control, Containment, or Cleanup):				
Number and Type of Injuries or Fatalities:				
Number Evacuated, if any:				

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TABLE 210-2. SPILL RESPONSE NOTIFICATION FORM – OIL SPILL

AGENCY CALL-OUT LIST				
(Record Additional Information On Following Log Sheets)				
	Agency	Phone Number	Call Time	Contact Name
(REQUIRED NOTIFICATIONS)		Update every shift		
<i>Call within 30 minutes of Discovery</i>				
(REQUIRED NOTIFICATIONS)		Update every shift		
①	Response Contractor <u>NRC ES</u>	(925) 685-2800		
<i>Contact Agencies below within 30 minutes of Discovery</i>				
②	CA EMA	(800) 852-7550		
	State Office of Emerg. Services	(fax 916-845-8910)		
	Case #			
③	NRC	(800) 424-8802		
	National Response Center	(202) 267-2675		
	Case #			
<i>Call As soon as Possible</i>				
④	Benicia Fire Department	(707) 745-2424		
⑤	Solano Co.	<u>(707) 784-5318</u>		
	Office of Env Mgmt	<u>(707) 421-6765</u>		
	Solano Dispatch	(707) 421-7090		
	(Nights & W/E)			

TABLE 210-3. SUPPLEMENTAL NOTIFICATION FORM – OIL SPILL

SUPPLEMENTAL NOTIFICATIONS				
<i>Other Agencies that you Have Notified or Plan to Immediately Notify</i>				
	Agency	Phone Number	Call Time	Contact Name
	CA DFG- OSPR	<u>(916) 445-9338</u>		
	Office Oil Spill Prevention & Response	<u>F&G Dispatch</u> <u>(916) 358-1300</u>		
	USCG Sector – San Francisco Command Center	(415) 399-3545		
	Fax:	<u>(415) 399-3521</u>		
	Regional Water Quality Control Board (RWQCB) Spill Hot Line	<u>(510) 622-2369</u>		
	Contra Costa Co. OES	<u>(925) 646-4461</u>		
	(if affected)			
	State Lands Commission	(510) 741-4955		
	- No. CA Division			
	Division Manager (Cell)	(510) 908-4473		
	Kinder Morgan (KME) Pipeline	(925) 682-6850		
	Shell Pipeline	(713) 241-5667		
	Pacific Atlantic Terminal /PAALP	<u>(925) 229-3200</u>		
	- Martinez Control Room			
	<u>AMPORTS – Benicia</u>	<u>(707) 745-2394</u>		
	<u>Benicia Marina</u>	<u>(707) 745-2628</u>		

210 OIL SPILL RESPONSE CONTRACTOR

The primary oil spill response contractor is National Response Corporation Environmental Services (NRC ES). NRCES should be alerted in the event of any release or threat of release to water, and may be mobilized at any level of activation of the Benicia Refinery organization, as deemed appropriate by the Incident or On-Scene Commander. Other Oil Spill Removal and/or support contractors should be notified and/or mobilized as needed. (Only primary sources of

spill response support are listed here. Additional emergency support services are listed in Appendix C of the Oil Spill Contingency Plan)

Table 210-4 Response Contractors

Contact (Time)	<i>ORGANIZATION</i>	Service	<i>Telephone</i>	Contact
	<u>NRC ES</u> <u>NRC Environmental Services</u>	<u>OSRO</u> <u>Shallow Water</u> <u>Shoreline</u>	<u>(800) 337-7455</u> <u>(510) 749-1390</u> <u>24 hr. Dispatch</u>	<u>Todd Rolof</u> (Cell 510-719-1248) <u>Bob Ireland</u> (Cell 510-385-3253)
	Phillips West Industrial Services	Shore Response	(707) 746-8287	Mike Powell
	Universal Environmental	Shore Response	(707) 747-6699	Andy Hastings
	BlueWater & Assoc.	ICS Coach Spill Trajectory Modeling	(415) 492-2882 Cell (24 hr): 415-990-2588	Terry Joslin
<u>Supplemental Contractors</u>				
	California Oiled Wildlife Care Network (OSPR)	Wildlife Rescue & Rehab.	(916) 358-1300 24 hr. Dispatch	Dr. Mike Zicarrdi
	Entrix, Inc.	NRDA	(800) 476-5886	
	<u>Bristow Academy (formerly Helicopter Adventures)</u>	Overflight	<u>(925) 686-2917</u>	

INITIAL CALL OUTS ARE IDENTIFIED IN BOLD

212 Submarine Pipeline Spills

Kinder Morgan (KME) shares the pipeline alignment across the Carquinez Strait with Valero Refining Company - California. While Valero monitors this area during pumping operations, releases observed during such operations may or may not be from Valero facilities. Conversely releases observed in the area during periods of non-operation might in-fact be related to static losses from Valero's facilities. Valero's initial response will assume that Valero facilities are involved, and the Plan activated according to the procedures previously described. The Valero IC will immediately notify KME that a release has been reported in the vicinity of their pipelines.

In addition, petroleum may be pumped to the Valero Benicia Refinery through these pipelines, but for which Valero has not accepted receipt. In these cases, the operator pumping the oil will be known and will be notified immediately.

These operators include:

Kinder Morgan (KME) (formerly SFPPL)(925) 682-6850

Shell Pipeline.(713) 241-5667

Pacific Atlantic Terminals, Martinez(925) 229-3200

As in the prior case, Valero will activate this Plan in response to any reported spills associated with its facilities.

213 UNIDENTIFIED SPILLS

Unidentified spills that are observed going by the Benicia Refinery docks should be reported the Coast Guard as unidentified. For spills that did not originate at the Benicia facilities, if the Coast Guard requests that we respond to the spill, we shall proceed to do so. However, ask the Coast Guard to confirm this request by FAX and contact NRC ES, Inc. about this request, so that the proper paperwork can be completed.

If coke dust is seen floating on the water, notify Coke Terminal Manager and advise them to notify the US Coast Guard.

Terminal Manager..... Office (707) 746-8257

..... Cell (707) 4809939

Dock Silo Office.....(707) 745-1101

|

214 EMERGENCY NOTIFICATION CHECKLIST

Select a checklist appropriate to the spill volume or as directed by the Incident Commander. Use the Checklist to make sure that refinery internal and response contractors and external contacts have been made.

NOTIFICATION LIST A**MINOR SPILL - Less Than 100 Gallons**

ACTION	COMPLETED/ TIME
Immediately call the following in <i>Order of Priority</i> listed:	
Contact Shift Superintendent (Qualified Individual)	
• Mandatory Agency calls as listed on the Oil Spill Report form.	
• <u>Water Spill:</u> Dock Superintendent	
<u>Land Spill:</u> Oil Movements Unit Team Leader	
As directed by the Shift Superintendent, call the following:	
• <u>NRC ES</u>	
• Dock/ OM&S Day Coordinator	
• Operations "Area C" Manager	
• Environmental and Safety Manager	
• Public Affairs Manager	
• Benicia Police Department	
• Benicia Fire Department	
• Process call-in from next shift	
• Mobilize Helicopter Service	
• Cal Bay – Benicia	

NOTE: Refer to Shift Superintendent's phone directory for current phone numbers.

NOTIFICATION LIST B

MODERATE SPILL - Less Than 1,000 Gallons

ACTION	COMPLETED/ TIME
Immediately call the following in <i>Order of Priority</i> listed:	
Contact Shift Superintendent (Qualified Individual)	
Mandatory Agency calls	
as listed on the Oil Spill Report form	
• Water Spill: Dock Superintendent	
Land Spill: Oil Movements Unit Team Leader	
• <u>NRC ES</u>	
• Operations Area C Manager	
• Environmental and Safety Manager	
• Public Affairs Manager	
As directed by the Shift Superintendent call the following:	
• Dock/ OM&S Day Coordinator	
• Mobilize Helicopter services	
• Legal Department	
• Benicia Police Department	
• Benicia Fire Department	
• Process call-in from next shift	
• Additional Shift Supervisor	
(Refinery Mobilizes)	
• Cal Bay – Benicia	

NOTIFICATION LIST C

MAJOR SPILL - Greater Than 1,000 Gallons

ACTION	COMPLETED/ TIME
Immediately call the following in <u>Order of Priority</u> listed:	
Contact Shift Superintendent (Qualified Individual)	
Mandatory Agency calls	
as listed on the Oil Spill Report form	
• Water Spill: Dock Superintendent	
Land Spill: Oil Movements Unit Team Leader	
• Operations Area C Manager	
• Operations Director	
• <u>NRC ES</u>	
• Environmental and Safety Manager	
Section Supervisor	
• Public Affairs Manager	
• Benicia Fire Department	
• Benicia Police Department	
• Mobilize Helicopter services	
• Legal Department	
• Two off-shift Shift Superintendents	
As directed by the Shift Superintendent call the following:	
• Dock / OM&S Day Coordinator	
• Call-in of next process shift personnel	
• Call-out of additional Valero personnel	
• Cal Bay – Benicia	

220 SPILL MITIGATION AND RESPONSE CHECKLIST

221 IMMEDIATE RESPONSE PROCEDURES

The spill mitigation measures described herein are designed to reduce the amount, extent and effects of a discharge. These measures typically fall into categories including emergency shutdown, immediate containment actions and general spill response activities.

Safety is of critical concern during any spill response activity. Materials handled by the facilities covered in this Plan may have flammable, explosive and/or toxic characteristics. In addition, operations at night or during adverse weather conditions may present additional hazards. Strict compliance with safety provisions identified in this plan will be followed at all times. No procedure should be undertaken that would place personnel in jeopardy.

This section describes emergency procedures to be followed in the event of an oil spill. Additional information regarding these emergency procedures is provided in Valero operating documents including the following:

- DOT Pipelines Operations and Maintenance Manual
- Oil Movements Dock and Post 14 Operators Manual
- Dock Operations Manual


221.1 PROCEDURES FOR PREVENTION AND MITIGATION OF DISCHARGE**221.1.1A BERTH 1 - EMERGENCY SHUTDOWN PROCEDURES*****Crude Receiving***

(b) (7)(F)



All of these motor-operated valves can be operated manually, if the motor or power fails.

The dock technician has communication links via telephone and two-way radio, with the Control Center in the refinery. They can also communicate via portable hand held short wave two-way radio with the Refinery Shift Superintendent, Operations Supervisor, and all OM&S refinery technicians. (b) (7)(F)

 in the crude line on shore, which can be operated remotely from the outside wall of the Dock Shelter.

Emergency Shutdown System

(b) (7)(F)



(b) (7)(F)



Product Loading/ Receiving

In the event of emergency, the shore valves can be closed remotely by both the dock technician and by the person in charge of the vessel. These remote shutdown switches will be located in the dock shelter on the graphics panel and at the vessel's rail near the valve manifold. If the vessel or the dock technician depress the emergency shutdown, both the shore valve will close and the product loading pumps will shut down.

(b) (7)(F)



Table 220-1. Dock and Vapor Recovery Unit Shutdown Systems.

Instrument #	Location	System	Function
(b) (7)(F)		Crude	(b) (7)(F)
		Product	
		Product	
		Crude	
		Product	
		Crude	
		Product	
		Crude	
		Crude	
		Product	
		Both	
		Product	
		Both	
		Both	

Table 220-1. Dock and Vapor Recovery Unit Shutdown Systems (continued).

Instrument #	Location	System	Function
(b) (7)(F)		Product	(b) (7)(F)
(b) (7)(F)		Product	(b) (7)(F)
(b) (7)(F)		Both	(b) (7)(F)

221.1.1B BERTH 2 - EMERGENCY SHUTDOWN PROCEDURES – REMOVED**221.1.1C PIPELINE OPERATIONS EMERGENCY SHUTDOWN**

Operators at the dock and in the refinery monitor from the control room and the pipelines that transfer oil and products between the berths, the refinery. The primary means to detect a potential discharge is with the operator monitoring the flow at the shipping location during transfer.

The Dock Technician on an hourly basis transfer compares the volumes transferred and received. If in event of a discrepancy, the Dock Technician would initiate shut down of transfer and would immediately notify the Refinery Shift Superintendent.

Controls for (b) (7)(F) on the lines could be closed by the controls in the control room. In addition, an operator would close the manual shore valves and the valves at the tank farms. Refer to Figure 400-1c DOT Pipeline Route Map for details on locations of the MOV's.

Refer to the DOT Pipeline Operations and Maintenance Manual for more details on emergency shutdown operations.

221.1.2 MANIFOLD/TRANSFER EQUIPMENT FAILURE

In the event of manifold/transfer equipment failure the following steps will be taken:

Complete		Action
	1.	Secure equipment by shutting down pumps and closing valves.
	2.	Verify personnel safety by accounting for people and checking for personnel hazards.
	3.	Mitigate environmental hazards by removing product with sorbent, vacuum trucks or skimming systems and by use of exclusionary booming techniques, or temporary earthen dams.

221.1.3 TANK OVERFILL

In the event of a tank overfill the following steps will be taken:

Complete		Action
	1.	Stop tank filling operations, shut down pumps, close valves to stop flow of oil into the tank, and contain oil if it is non volatile.
	2.	Verify personnel safety by accounting for people and checking for personnel hazards.
	3.	Mitigate environmental hazards by removing product from containment area by sorbent, vacuum truck or portable pumps.

221.1.4 TANK FAILURE

In the event of a tank failure the following steps will be taken:

Complete		Action
	1.	Secure operations and equipment by shutting down pumps and closing valves.
	2.	Check secondary containment.
	3.	Close any drains.
	4.	If it can be done safely, take actions to minimize further release of oil from tank.
	5.	Verify personnel safety by accounting for people and checking for personnel hazards.
	6.	Mitigate environmental hazards by removing product from containment area by vacuum trucks or portable pumps.

221.1.5 PIPING RUPTURE

In the event of a piping rupture the following steps will be taken:

Complete		Action
	1.	Secure the equipment by shutting down pumps and closing valves.
	2.	Verify personnel safety by accounting for people and checking for personnel hazards.
	3.	Mitigate environmental hazards by removing product from containment areas by sorbent, vacuum truck or skimming systems and by use of exclusionary booming techniques or temporary earthen dams.
	4.	Cleanup of hazardous materials is handled by equipment necessary to remove contaminated soil and plants as required by agencies and provided by technology.
	5.	Disposal of hazardous materials as mandated by law.

221.1.6 Piping Leak

In the event of a piping leak the following steps will be taken:

Complete		Action
	1.	Secure the equipment by shutting down pumps and closing valves.
	2.	Verify personnel safety by accounting for people and checking for personnel hazards.
	3.	Mitigate environmental hazards by removing product from containment areas using vacuum trucks or skimming systems. In addition, the use of exclusionary booming techniques or temporary earthen dams may be effective.

221.1.7 EXPLOSION OR FIRE

In the event of explosion or fire the following steps will be taken:

Complete		Action
	1.	Call the Fire Department.
	2.	Secure/isolate the equipment by shutting down pumps and closing valves.
	3.	Verify personnel safety by accounting for people and checking for personnel hazards.
	4.	Mitigate fire using Valero's fire fighters and other assistance as necessary. The source of ignition will be extinguished. While the fire is being extinguished, the environmental mitigation procedures will be determined and carried out.

221.1.8 EQUIPMENT FAILURE

In the event of equipment failure the following steps will be taken:

Complete		Action
	1.	Secure the equipment by shutting down pumps and closing valves.
	2.	Verify personnel safety by accounting for people and checking for hazards to personnel.
	3.	Mitigate environmental hazards by removing product from containment areas by vacuum truck or skimming systems and by use of exclusionary booming techniques or temporary earthen dams.

221.1.9 BENICIA MARKETING TERMINAL TEAM (NORMAL WORKING HOURS ONLY)

The Valero person discovering a spill or receiving a third-party report of a spill associated with the truck terminal shall immediately notify the Marketing Terminal Superintendent or designated alternate. The on-scene individual will then initiate actions to stop and contain the spill, control ignition sources, and provide aid to injured personnel, if safe to do so. The Marketing Terminal Superintendent will assess the situation, and if beyond the capability of terminal personnel to control, initiate the notifications and call-out described below for other operations.

During after hours, when the Marketing Terminal is not occupied, any notification of a spill or discharge would be reported to the Shift Superintendent who would mobilize the appropriate response and make the required notifications.

222 PROCESS TEAM-SPILL RESPONSE TEAM (PT-SRT)

In all spill events, the following procedure will be followed immediately:

Figure 220-2 Process Spill Team Activation

Complete		Action
	1.	The Shift Superintendent, the Operations Manager and the PT-SRT as listed below will immediately respond to the spill site.
	a.	OM&S Post 12
	b.	OM&S Post 14
	c.	OM&S Blending Tech
	d.	Waste Water Treatment Tech
	e.	Hydrogen Unit - B Train Tech
	f.	Cat Light Ends Tech
	2.	The Lab Technician will report to the Shift Superintendent's office and begin notification. The Shift Superintendent will implement response plan notification call list A, B, or C.
	3.	If the spill occurs between 0800 and 1630, Monday through Friday, proceed as described on the following page.
		If the spill occurs on an off-shift, refer to plan A, B, or C as advised by the Shift Superintendent.
	4.	The Shift Superintendent upon arriving at the spill site will:
	a.	Ensure the safety of the personnel, public and equipment.
	b.	Assess the size of the spill and notify the Lab Technician to begin notification list A, B, or C.
	c.	As possible, secure the spill at its source.
	d.	Begin cleanup of the spill.
	e.	Appoint a Supervisor to take charge of cleanup activities so the Shift Superintendent and Operations Manager can resume normal duties if necessary.

Figure 220-2 Process Spill Team Activation (continued)**0800-1630, MONDAY-FRIDAY OIL SPILL RESPONSE****The Lab Technician will go to the Shift Superintendent's office and:**

Complete		Action
	1.	Notify the Dock/ OM&S Superintendent and Day Coordinator of the spill.
	2.	Notify the Operations Area "C" Manager of the spill.
	3.	Notify the Environmental and Safety Manager of the spill.
	4.	Contact the Mechanical Superintendent to standby for manpower requests and to have a Shift Supervisor in Mechanical report to the Shift Superintendents office to assume communication control.
	5.	Contact the Shift Superintendent at the spill site and complete the information section of the Oil Spill Report form.
	6.	Either the Lab Technician or the Shift Superintendent who has relieved him will make the mandatory agency calls as listed on the Oil Spill Report form.
	7.	Proceed to make the contacts as indicated on notification lists A, B, or C as directed by the Shift Superintendent at the spill site.

MECHANICAL SUPERINTENDENT

During the 0800-1630, Monday-Friday period it will be usual to completely relieve the process team that has responded to the spill. As quickly as possible provide from Mechanical the following:

Complete		Action
	1.	A Shift Superintendent to respond to the Control Center.
	2.	A Shift Superintendent to respond to the spill site and relieve the Process Shift Supervisor so he can resume normal duties.
	3.	Operations Supervisor or Step-up to report to the spill and relieve the Process Operations Supervisor.
	4.	As many Mechanical Technicians as necessary to relieve the PT-SRT so they can return to their normal process duties.

223 VALERO BENICIA REFINERY SPILL MANAGEMENT TEAM (SMT)

If the spill incident exceeds the capabilities of the PT-SRT, the acting Valero Incident Commander will request mobilization of the Benicia Refinery SMT. The Shift Superintendent will then follow the SMT activation Procedure to mobilize the Team.

Figure 220-3 SMT Activation

Complete		Action
<u>SMT Activation Procedure</u>		
	1.	Notify Benicia Refinery SMT Coordinator of the incident and provide them information on the spill.
	2.	Access the SMT "On-Call" list for the current date.
	3.	Develop a paging message and page the SMT via "group calls"..
	4.	Phone the SMT paging system phones and leave the mobilization message on each recorder:
	5.	Repeat the calls as noted above 15 minutes later and then every 30 minutes, until the Team has assembled.
	6.	Referring to the SMT "on-call" listing obtained in Step 2 above and the contact phone numbers included (or also located in Section 4 of this manual), contact Team members "on-call" by telephone, either at home or at work. Confirm with each Team member the SMT activation.
	7.	Notify the Operations Director of the activation.
	8.	Notify the Public Affairs Manager of the activation.
	9	Prepare Command Post with SMT facilities
	.	<ul style="list-style-type: none"> - <u>Trailer 42, EOC</u> - <u>If incident grows, IC would transfer to Valero East</u>

230 SPILL RESPONSE ORGANIZATION

231 ORGANIZATION STRUCTURE

The Benicia Refinery utilizes a multi-level organization based on the Incident Command System to provide immediate, efficient and flexible response to spills associated with the operation of its facilities. The initial level of response is provided by trained operating personnel, Benicia Refinery Process Team-Spill Response Team (PT-SRT), who are on-duty 24 hours per day. If the demands of the incident require capabilities beyond those of this team, Valero's SMT is activated. The SMT is initially staffed using on-call Benicia Refinery personnel. In general, the SMT should be capable of managing a response to any of the planning scenarios described in this contingency plan.

In the event of a major incident, the Valero Energy Corporation may be contacted with requests for access to Valero's overall emergency resources. As needed, additional staffing for the SMT is accomplished mobilizing Valero personnel from other facility locations.

The structure of the Benicia Refinery SMT is based on the NIIMS Incident Command System. The organization permits immediate scale-up to meet the requirements of any size incident. Coordination with state and federal Incident Commanders is maintained using the Unified Command approach, regardless of the level of activation of Valero resources.

232 QUALIFIED INDIVIDUAL

A Qualified Individual (QI) is available at the Benicia Refinery at all times. The QI is the on-duty Shift Superintendent who can be reached at :

(707) 745-7562 [QI Primary Phone Number – Refinery Pipelines Number]

(707) 745-7011 [QI Alternate Phone Number – Refinery Main Gate Number]

Via radio on a 24 hour basis.

The on-duty Shift Superintendent will act as Benicia Refinery Incident Commander (IC) as well as the QI for the initial level of response (Benicia Refinery Process Team-Spill Response Team). In this capacity, the Shift Superintendent is authorized to initiate the response functions outlined in this plan. The Shift Superintendent will be superseded as QI/IC by other management personnel (assigned at the time of the incident) as successive levels of response are activated.

QI authority to authorize expenditures will be commensurate with the magnitude of the incident. The State Incident Commander and the Federal On Scene Coordinator (FOSC) will be informed of any change in the Benicia Refinery QI/IC.

A letter designating Qualified Individuals and Alternates is presented on the following page.

INSERT COMPANY LETTER AUTHORIZING PRIMARY AND ALTERNATE
QUALIFIED INDIVIDUAL

VALERO BENICIA REFINING COMPANY-CALIFORNIA

BENICIA REFINERY OPERATIONS SUPERINTENDENTS

PRIMARY QUALIFIED INDIVIDUAL LIST EFFECTIVE 01/09/2014

TEAM OPERATIONS SUPERINTENDENTS

**KEN DORSEY
FRANK AVERETT
TONY VAN ZANDT
RAY CASTRO JR.**

BENICIA REFINERY STEP-UP OPERATIONS SUPERINTENDENTS

ALTERNATIVE QUALIFIED INDIVIDUAL LIST EFFECTIVE 01/09/2014

TEAM STEP-UP OPERATIONS SUPERINTENDENTS

**ROB VILLARREAL
MIKE HERRING
MIKE DIXON
CHRIS SIMMONS
DALE SALVADOR
KATHLEEN FENTON**

Figure 230-1. Qualified Individuals and Alternatives.

233 BENICIA REFINERY PROCESS TEAM-SPILL RESPONSE TEAM (PT-SRT)

The Benicia Refinery Process Team-Spill Response Team provides trained on-site personnel for the immediate control and cleanup of small releases within their ability to control, and initiation of the response to all other spills. This team is composed of up to fourteen Supervisors and Refinery Technicians from the on-shift Benicia Refinery Process Team. The PT-SRT will normally be activated at two levels. The first level includes the following on-duty personnel:

- Shift Superintendent
- Operations Supervisor
- Post 12 Technician
- Post 14 Technician
- Post 15 Technician
- Waste Water Treating Technician
- CAT Light Ends Technician
- Hydrogen Unit B Technician
- Dock Technician

The second level of activation of the PT-SRT would include:

- CAT Cracking Technician
- Sulfur Gas Technician
- Alkylation Technician
- Powerformer

Waste Water Treatment Technician - There are seven Process Teams at the refinery, with one team on-shift at all times. These seven teams rotate shift schedules and switch between performing refinery operations activities (four weeks) to maintenance work (three weeks) over a seven week cycle. The personnel on the maintenance cycle are available during the day shift, Monday-Friday at any time, or via special call-out, as backup to the team on-shift. This Team is available 24 hours a day, 7 days a week. As determined necessary by the QI/IC, NRC ES, and/or additional response contractors may be alerted or activated, and the next level of SMT requested. The general organizational structure of the Process Team-Spill Response Team is shown in Figure 230-2. Indicated in this figure is the on-shift staffing assignments for each position.

As additional resources are needed, the Process Team-Spill Response Team members are either absorbed into the SMT on its activation, or returned to their normal operating duties.

Process Team - Spill Response Team (PT-SRT)

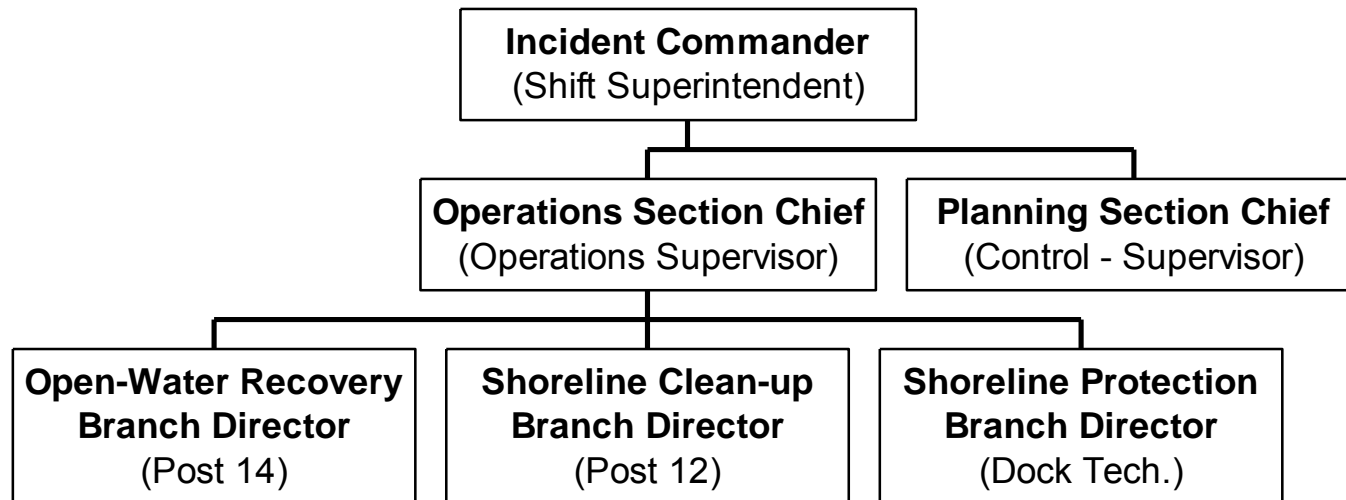


Figure 230-2. PT-SRT Organization Structure.

234 BENICIA REFINERY SPILL MANAGEMENT TEAM (SMT)

SMT is designed as a compact, fast-response emergency management team. The team organizational structure has been framed on the premise that it must have the flexibility to adapt to the specific needs of a particular incident or situation. It is composed of Benicia Refinery employees from various portions of the refinery, who are trained and prepared to respond to a spill incident in a minimum of time. The first on-scene starts forming the nucleus of the spill management organization.

This group includes management, supervisory, operations, planning, finance and logistics specialists who are available 24 hours per day via a pager system. Each of the positions on the Team has two individuals assigned and these two persons have the responsibility for providing vacation and/or business "relief" for one another. A call-out scheduling system has been implemented to ensure 365-days/year coverage of these positions. In the event of a spill incident, the persons not on-call at the time of the incident would be available for relief of the first response group.

The organizational structure of the SMT is shown in Figure 230-3. The SMT can be activated according to the needs of a particular event. The Incident Commander in coordination determines activation level with other members of the Unified Command. The SMT positions normally filled by Benicia personnel are shown.

One of the principle responsibilities of the SMT managers is to assess the adequacy of the structure and resources of the team in meeting the needs of a particular incident. Transitions and adjustments will be necessary in most cases. As an incident progresses over time, workload shifts are going to change, necessitating further adjustments in the structure or resource allocation within the team.

While the need for flexibility within the team is very important, it is equally important that the team have a clearly defined structure at all times. This means that it is necessary to update and clearly communicate the changes that do occur within the team. The SMT structure that is presented herein should be considered as a starting point for the development of an incident-specific response team.

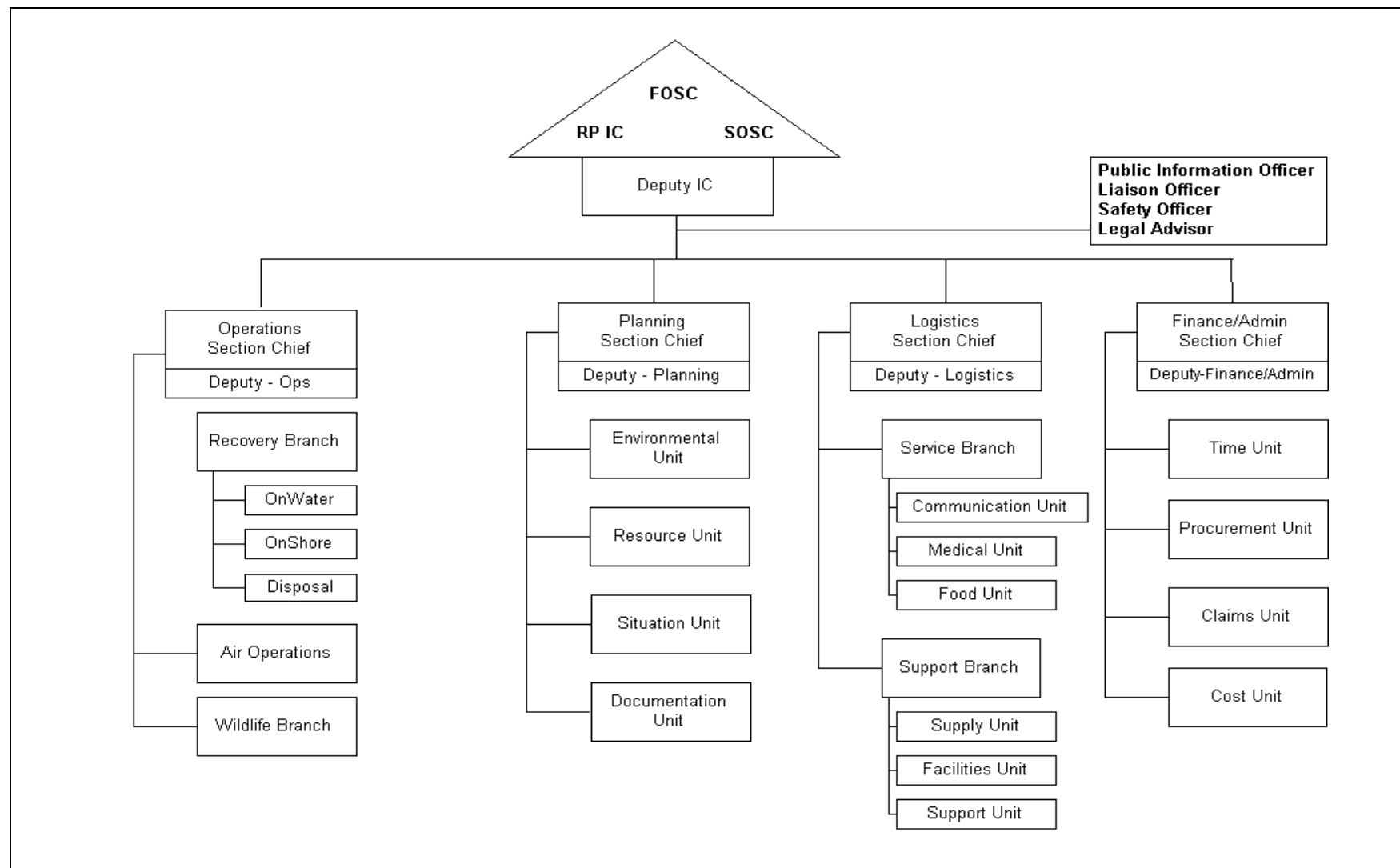


Figure 230-3. SMT Organization Structure.

236 RESPONSE ORGANIZATION POSITION DESCRIPTIONS

Descriptions of general duties and responsibilities for response team members are presented in the following section. These duties and responsibilities were developed for SMT section assignments, but also apply to PT-SRT positions. The exact formulation of a response team and specific duties of each team member will be dependent on the characteristics of each event.

TABLE 230-1**SPILL RESPONSE TEAM PERSONNEL DUTIES**

ICS POSITION	DUTIES AND FUNCTION
<p><u>INCIDENT COMMANDER (IC)</u></p> <p>Responsible for overall management of the response as a participant in the Unified Command. May utilize Deputy IC to assist with duties.</p>	<ul style="list-style-type: none"> - Assess the situation considering the briefing by the prior IC - Determine incident strategic objectives and goals - Establish immediate response priorities - Activate an incident command post - Establish appropriate level of ICS organization - Brief arriving Section Chiefs and Command Staff Personnel - Ensure that meetings and briefings are being scheduled effectively (Planning Cycle) - Determine Information needs and advise appropriate ICS organization - Approve requests for additional resources and information releases - Authorize release of information to news media - Ensure funding is available and adequate - Ensure Claim process is activated (see Finance/ Admin. Section for Telephone Nos.) - Notify Natural Resource trustees and monitor NRDA requirements and approach - Coordinate incident investigation responsibilities - Seek appropriate legal counsel - Order demobilization of the incident when appropriate

TABLE 230-1 (Cont.)**SPILL RESPONSE TEAM PERSONNEL AND DUTIES**

ICS POSITION	DUTIES AND FUNCTION
<p><u>OPERATIONS SECTION CHIEF</u></p> <p>Responsible for management of all operations directly applicable to the mission. Reports to the Incident Commander and UC. Activates and supervises response elements in accordance with the Incident Action Plan (IAP), executes the site safety plan, and directs air operations plans.</p>	<ul style="list-style-type: none"> - Establish appropriate operations section organization which may include On-water group, on-shore group, staging areas, air operations group, disposal group, emergency response branch, and wildlife branch - Develop operations portion of the Incident Action Plan(IAP) - Brief and assign operations personnel in accordance with the IAP - Supervise the execution of the IAP for operations - Request resources needed to implement the operations tactics per the IAP - Ensure safe tactical operations - Coordinate changes in IAP during that operational period - Approve resources to be released from assigned status - Assemble and disassemble operational teams for divisions, groups, and task forces assigned to operations - Collect and report information relating to changes in the IAP, special activities, events, and occurrences to the IC, Planning Section Chief, and Information Officer - Maintain activity log

Section positions may expand as required to include other units as depicted on Spill Response Team organization chart Figure 2-1.

TABLE 230-1 (Cont.)**SPILL RESPONSE TEAM PERSONNEL AND DUTIES**

ICS POSITION	DUTIES AND FUNCTION
<p><u>PLANNING SECTION CHIEF</u></p> <p>Responsible for the collection, evaluation, dissemination, and use of information about the incident and status of resources. Reports to the IC. Information includes that required to 1) understand the current situation, 2) predict the probable course of events, and 3) prepare alternative strategies for possible occurrences</p>	<ul style="list-style-type: none"> - Establish Planning Section organization as required including environmental specialists, situation unit, resource unit, documentation unit, demobilization unit, and other technical specialists - Collect and process situation information - Supervise preparation of the Incident Action Plan (IAP) - Establish information requirements and reporting schedules for all ICS organization to support development of the IAP - Provide input to the IC/UC, and operations section chief - Participate in planning and other meetings (Planning Cycle) - Assign Technical specialists where needed - Coordinate assessment of alternative strategies - Provide periodic predictions on incident potential - Effectively compile and display incident status summary information - Incorporate incident traffic plan, vessel routing plan, and other supporting plans into the IAP - Prepare demobilization plan with recommendations for release of resources to the members of the ICS - Maintain activity log

Section positions may expand as required to include other units as depicted on Spill Response Team organization chart Figure 2-1.

TABLE 230-1 (Cont.)**SPILL RESPONSE TEAM PERSONNEL AND DUTIES**

ICS POSITION	DUTIES AND FUNCTION
<p><u>LOGISTICS SECTION CHIEF</u></p> <p>Responsible for providing facilities, services, and material in support of the incident. Reports to the IC. Participates in the development and implementation of the IAP.</p>	<ul style="list-style-type: none"> - Establish appropriate organization to staff service branch and support branch, - Participate in the preparation of the IAP - Identify the expected service and support requirements for the planned and expected operations - Provide input to the Communications Plan, Medical Plan, Traffic Plan, and Vessel Routing Plan - Coordinate and process requests for additional resources - Prepare the service and support elements of the IAP - Review of IAP and estimate Logistics Section needs for the next operational period - Receive and process the demobilization plan from Planning Section - Coordinate release of resources in conformance with the Demobilization Plan - Maintain activity log

Section positions may expand as required to include other units as depicted on Spill Response Team organization chart Figure 2-1.

TABLE 230-1 (Cont.)**SPILL RESPONSE TEAM PERSONNEL AND DUTIES**

ICS POSITION	DUTIES AND FUNCTION
<p><u>FINANCE/ ADMIN. SECTION CHIEF</u></p> <p>Responsible for monitoring and coordinating all financial and cost analysis aspects of the incident</p>	<ul style="list-style-type: none"> - Establish organization as required to fulfill duties of procurement unit, compensation & claims unit, cost unit, and time unit - Develop and operating plan for finance and administration functions - Brief the IC/UC of financial status and forecasts - Provide input to Planning Meetings on financial and cost analysis - Maintain daily contact with agency administration on finance matters - Ensure that all personnel time records are maintained adequate for tracking of expenditures - Participate in demobilization planning - Ensure that all obligation documents initiated at the incident are properly prepared and completed - Maintain activity log

Section positions may expand as required to include other units as depicted on Spill Response Team organization chart Figure 2-1.

TABLE 230-1 (Cont.)**SPILL RESPONSE TEAM PERSONNEL AND DUTIES**

ICS POSITION	DUTIES AND FUNCTION
<p><u>SAFETY OFFICER</u></p> <p>Responsible for monitoring and assessing hazardous and unsafe situations and developing measures for assuring personnel safety. Reports to the IC. Safety officer may exercise emergency authority to stop or prevent unsafe acts when immediate action is required.</p>	<ul style="list-style-type: none"> - Establish organization as required to monitor field activities and provide safety support for command post activities - Assign and manage the incident safety organization - Identify hazardous or unsafe situations associated with the incident by ensuring the performance of preliminary and continuous site characterization and analysis which shall include the identification of all actual or potential physical, biological, and chemical hazards now or expected to be present on site - Participate in Planning Meetings to identify any health and safety concerns inherent in the operations daily work plan - Review of the IAP for safety concerns - Exercise emergency authority to stop and prevent unsafe acts - Investigate accidents that have occurred within incident areas - Ensure that Site Safety Plan is prepared and implemented in accordance with the Area Contingency Plan and State and Federal OSHA regulations - Review and approve the Medical Plan - Maintain activity log

TABLE 230-1 (Cont.)**SPILL RESPONSE TEAM PERSONNEL AND DUTIES**

ICS POSITION	DUTIES AND FUNCTION
<p><u>LIAISON OFFICER</u></p> <p>Position may be established where the incident has multi-jurisdictional, or several agencies involved. Reports to the IC/UC.</p>	<ul style="list-style-type: none"> - Provide a point of contact for assisting and cooperating with Agency Representatives - Identifies representatives from each impacted agency including communications link and location - Assist in establishing and maintain list of assisting interagency contacts - Keep agencies supporting incident response aware or status - Monitor incident to identify current or potential inter-organizational issues and advise IC/UC - Participate in Planning Meetings, provide current resource status information for assisting agency resources - Maintain activity log

TABLE 230-1 (Cont.)**SPILL RESPONSE TEAM PERSONNEL AND DUTIES**

ICS POSITION	DUTIES AND FUNCTION
<p><u>PUBLIC INFORMATION OFFICER</u></p> <p>Responsible for developing and releasing information about the incident to the news media, to incident personnel, and to other appropriate agencies and organizations. Reports to the IC/UC</p>	<ul style="list-style-type: none"> - Establish organization as required by the incident, including Joint Information Center with State and Federal authorities - Coordinate media release guidelines with IC/UC - Develop material for use in media briefings - Inform media and conduct media briefings - Arrange for tours and other interviews or briefings that may be required - Obtain media information that may be useful to incident planning - Maintain current information summaries and/or displays on the incident and provide information on status of incident to assigned personnel - Maintain activity log

240 RESPONSE STRATEGIES

Section 240 provides a general discussion of strategies and considerations for performing activities during a spill response. The subsections include:

- 241 Assessment
- 242 Spill Type
- 243 Evacuation Procedures
- 244 Immediate response – Spills to Water
- 245 Shoreline Protection Procedures
- 246 On-Water containment and Recover
- 247 Chemical/biological Agents
- 248 Immediate Response – Spill to Land
- 249 Group V Oils

241 ASSESSMENT**241.1 VISUAL OBSERVATIONS**

As a result of the infinite number of combinations of spill types and environmental conditions, no two spills will be identical. Each spill must be evaluated independently on the basis of incident-specific conditions. The following section presents criteria for visual spill assessment. In all cases the safety of personnel must be given highest priority.

Upon notification of a spill event, the Incident Commander will immediately conduct observations to determine spill type, quantity, movement, threat, and environmental conditions.

The assessment process typically will include the following sequence of steps:

- 1) Evaluate spill type and safety hazard to Valero personnel, contractors and the general public.
- 2) If the type of material spilled is not certain, evaluate the properties of the spilled oil as they influence movement, recovery and environmental effects.
- 3) Estimate spill size and movement.
- 4) Establish response priorities.
- 5) Evaluate alternate sources.

241.2 SAFETY/HAZARDS

A number of potentially hazardous materials are handled by the Refinery and associated operations. Material Safety Data Sheets (MSDS) for primary materials are provided in Appendix A of this contingency plan and at other locations in the refinery. The MSDS's provide information on the hazards and safety precautions involved in handling the various materials.

Personnel Exposure

The main effect of hydrocarbon gas mixtures on personnel is to produce narcosis. The symptoms include headache and eye irritation, with diminished responsiveness and dizziness similar to drunkenness. At high concentrations, exposure can lead to paralysis, insensibility and death.

There are considerable variations in the toxicities of different pure components of hydrocarbon gas mixtures, but a TLV of about 100 ppm, corresponding to about 1% of the lower flammable limit (LFL), is considered to be applicable for the mixtures encountered during operations associated with the transportation of petroleum liquids.

The human body can tolerate concentrations somewhat greater than the TLV for short periods; the following are typical effects at higher concentrations:

0.1% vol. (1,000 ppm)	Irritation of the eyes within one hour.
0.2% vol. (2,000 ppm)	Irritation of the eyes, nose and throat, dizziness and unsteadiness within half an hour.
0.7% vol. (7,000 ppm)	Symptoms of drunkenness within 15 minutes
1.0% vol. (10,000 ppm)	Rapid onset of "drunkenness" which may lead to unconsciousness and death if exposure continues.
2.0% vol. (20,000 ppm)	Paralysis and death occur very rapidly

The smell of hydrocarbon gas mixtures is extremely variable, and in some cases the gases may dull the sense of smell. The impairment of smell is especially serious if the mixture contains hydrogen sulfide. The absence of smell should never be taken to indicate the absence of gas.

Fire/Explosion

Materials handled by the facility are typically flammable and present a significant fire and explosion hazard. Until otherwise established, **all** spills should be considered as having potential for fire and/or explosion.

Any spills involving restricted airspace in which vapors may accumulate (shipboard, tankage, machine spaces, inside structures, under docks, storm drains, etc.) should be considered as potentially dangerous. Hydrocarbon gases and mixtures may be heavier than air and settle in low areas and travel long distances along the ground. The Incident/On-Scene Commander in consultation with the Fire Department will assess and direct operations where vapor concentrations are present.

The flammable or explosive properties of hydrocarbon gases are measured in terms of approximate percent by volume in air. Any particular mixture will have a range of concentrations in which it is flammable or explosive (Flammable Limits). Estimated values of the flammable or explosive limits are presented in Table 240-1 for representative products handled at the refinery.

Table 240-1. Flammable/Explosive Limits.

Material	Lower Flammable Limit (LFL)	Upper Flammable Limit (UFL)
Crude Oil	0.6	15
Unleaded (Oxy) Gasoline	1.4	7.6
Plus Gasoline	1.4	7.6
Plus (Oxy) Gasoline	1.4	7.6
Supreme (Oxy) Gasoline	1.4	7.6
Supreme Gasoline	1.4	7.6
Off-Road Diesel No. 2	0.9	7
JP-5 (Kerosene)	0.9	7
Virgin Gas Oil	0.5	7
Naphtha (Reformate)	1	7.09
Petroleum Coke (solid)	NA (dust may be flammable)	NA
CBO	NA	NA

242 SPILL TYPE

In most cases, the material spilled can be identified by the operator, or by its appearance and location. Useful diagnostic properties of the materials handled at the Benicia Refinery are presented in Table 240-2, or from the Material Safety Data Sheets (MSDS). Additional information can be obtained by sampling and chemical analysis, if necessary.

242.1 OIL PROPERTIES

Spill volumes and material properties presented in this plan are representative of fresh material. Once spilled, petroleum hydrocarbons are subject to weathering and other processes, which may increase or decrease their volume and alter their handling characteristics. As these characteristics may impact their handling/treatment requirements, continual monitoring is necessary. Figure 240-1 and Table 240-3 present a dynamic oil classification system which may be used to classify oil as it changes during actual response.

Table 240-2. Diagnostic Properties of Materials.

Material	Specific Gravity	Color	Odor
Crude Oil	0.7-0.85	Black	Sweet
Unleaded (Oxy) Gasoline	0.74	Clear-Orange	Sweet
Plus Gasoline	0.74	Clear-Orange	Sweet
Plus (Oxy) Gasoline	0.74	Clear-Orange	Sweet
Supreme (Oxy) Gasoline	0.74	Clear-Orange	Sweet
Supreme Gasoline	0.74	Clear-Red	Sweet
Off-Road Diesel No. 2	0.86	Clear-Blue	Slight Petroleum
JP-5 (Kerosene)	0.788-0.845	Clear-White	Faint Petroleum
Virgin Gas Oil	0.9-0.95	Brown	Slight Petroleum
Naphtha (Reformate)	-1.5	Clear-Straw	Light Petroleum
Petroleum Coke (solid)	1.5-2.2	Gray-Black	Slight Petroleum
CBO	>1.0	Brown	Burnt Petroleum

**SOLID
CHUNKS:**
**STICKY O
VISCIOUS**

Figure 240-1. Field Identification of Oil Types.

Table 240-3. Spill Response Oil Classification.

Field-Classified Oil Type	Designation	Representative Oils	Diagnostic Properties	Physical/Chemical Properties
A	Light volatile oils	Distillate fuel and most light crude oils	Highly fluid, usually transparent but can be opaque, strong odor, rapid spreading, can be rinsed from plant sample by simple agitation.	May be flammable, high rate of evaporative loss of volatile components, assumed to be highly toxic to marine or aquatic biota when fresh, tend to form unstable emulsions, may penetrate substrates.
B	Non-sticky oils	medium to heavy paraffin-base refined and crude oils	Moderate to high viscosity, waxy or oily feel, can be rinsed from surfaces by low pressure water flushing.	Generally removable from surfaces, penetration of substrates variable, toxicity variable. Includes water in oil emulsions.
C	Heavy sticky oils	residual fuel oils; medium to heavy asphaltic and mixed-based crudes	Typically opaque brown or black, sticky, or tarry, viscous, cannot be rinsed from plant sample by agitation.	High viscosity, hard to remove from surfaces, tend to form stable emulsions, high specific gravity and potential for sinking after weathering, low substrate penetration, low toxicity (biological effects due primarily to smothering). Will interfere with many types of recovery equipment.
D	Non-fluid oils (at ambient temperature)	residual and heavy crude oils (all types)	Tarry or waxy lumps.	Non-spreading, cannot be recovered from water surfaces using most conventional cleanup equipment, cannot be pumped without pre-heating or slurrying, initially relatively non-toxic, may melt and flow when stranded in sun.

242.2 SIZE AND MOVEMENT

A rough estimate of the total volume of the spill is desirable. Early in the response, the estimated spill volume determines, in part, the level of response plan activation and the requirements for temporary storage and disposal.

The following quick methods can be used to provide working approximations.

Pipeline/Hose Loss

The volume of oil lost during a vessel unloading or pipeline transmission can be estimated from the pumping rate, the duration of pumping, and static line and hose loss estimates. This is summarized in Table 240-4. Calculations of loss are based on pump rate in gal./min. times minutes until shutdown plus loss of the static pipeline and hose contents for segments below (or seaward from) the estimated point of breakage. For the purpose of this estimation the static line diameter squared, equals bbls/1,000 feet.

Oil-On-Water

A working estimate of the volume of a spill on the water surface can be made by visual assessment of its surface area appearance and thickness.

Slick dimensions can be estimated using remote sensing equipment available from NRC ES, visually from the air using navigation electronics and occasionally from the water surface using radar. Figure 240-2 shows the relationship of volume, thickness, appearance and area covered.

Spill Movement

Additional information on spill movement is provided in Section 320, Offsite Consequence Analysis.

~~Table 240-4. Pipeline Specifications.~~

Moved to Section 400 – Table 400-1a

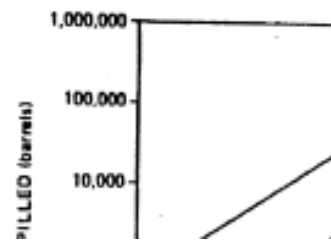


Figure 240-2. Oil Spill Volume, Film Thickness, Appearance and Area Covered.

243 Evacuation Procedures

243.1 GENERAL

A variety of events including fire, explosion and toxic gas release could occur as a consequence of an oil spill event. Under certain conditions, spills may necessitate the need for evaluation. All spills should be treated as potentially dangerous events.

Detailed evacuation plans are available for specific areas and various operations are contained in the "Emergency Procedures Manual" and area specific drawings are posted in all areas.

General evacuation procedures are contained in this section for the high risk areas of transfer operations.

243.2 EVACUATION PROCEDURE

Upon the instruction of the Shift Superintendent, Valero employees, contractors and their employees will evacuate the refinery and *proceed directly to an assembly area designated by the Shift Superintendent*. Once Valero employees have arrived at the assembly areas and are accounted for, additional information will be given by management. Likewise, contract employees will receive instructions from Valero through their supervisors. Visitors, salesmen and other non-employees in the plant are the responsibility of the employee whom they are visiting.

At the Asphalt Plant, continuous sounding of the evacuation alarm signifies an ALL PLANT evacuation mode and remains on throughout the entire emergency. Unless otherwise instructed, only the non-essential employees (employees who are not trained to respond to an emergency) are initially evacuated. All essential employees must report to the Evacuation Coordinator for further instruction.

When the evacuation alarm is sounded and the employees have become verbally instructed to evacuate the plant, they must exit the plant by the evacuation routes to the appropriate assembly area. The evacuees cannot go back to the plant until, first, they have been verbally notified that the plant is safe to re-enter and, second, the evacuation alarm has been turned off.

Refinery Security

(b) (7)(F)

Traffic Control

The Shift superintendent will notify the Benicia Police Department, which, in turn, will coordinate with the Solano County Sheriff's Department and the California Highway Patrol. These agencies will control and divert traffic as necessary.

Industrial Park Evacuation

(b) (7)(F)

Refinery Security Officer

(b) (7)(F)

Operations.

The Shift Superintendent is responsible for the continued safe operations of the refinery and isolation of the toxic release, if possible. If isolation is not possible, then an orderly shut down of the equipment affected is required.

SCBA

All personnel that remain in the refinery during a major toxic gas release will be required to wear SCBA equipment.

Rescue

Each technician is responsible for checking his area as soon as he has proper breathing equipment, to insure that the area is clear of personnel. The OMS vehicles will be available to transport any victims to the Main Gate or Gate #4.

Equipment Shutdown

Equipment should be shut down or secured only after personnel in the area are adequately protected with proper breathing equipment. All non-essential operations, such as pipeline deliveries, blending, and chemical receipt will be stopped until the emergency is over.

243.3 EVACUATION ROUTES**Exit - Main Gate**

Turn as per Shift Superintendent instructions on East Second Street.

Exit - Gate #4

Use Park Road for either east or west evacuation.

Dock

In the event of a fire or other emergency requiring evacuation of the Dock, several evacuation routes are available. If the normal evacuation route over the concrete approach on the north side of the Dock is blocked, then proceed to either end of the Dock or walkway on the west end of the main Dock. If both walkways are unusable, then use the emergency gate on the west end of the Dock to get onto the Benicia Industries Dock. If you must exit via the east end, an emergency life raft and paddle are available on the eastern-most dolphin. If time permits, either of the boats stored at the facility could be launched.

Benicia Marketing Terminal

When a spill at the Marketing Terminal warrant evacuation of the entire facility, the following procedures will be followed:

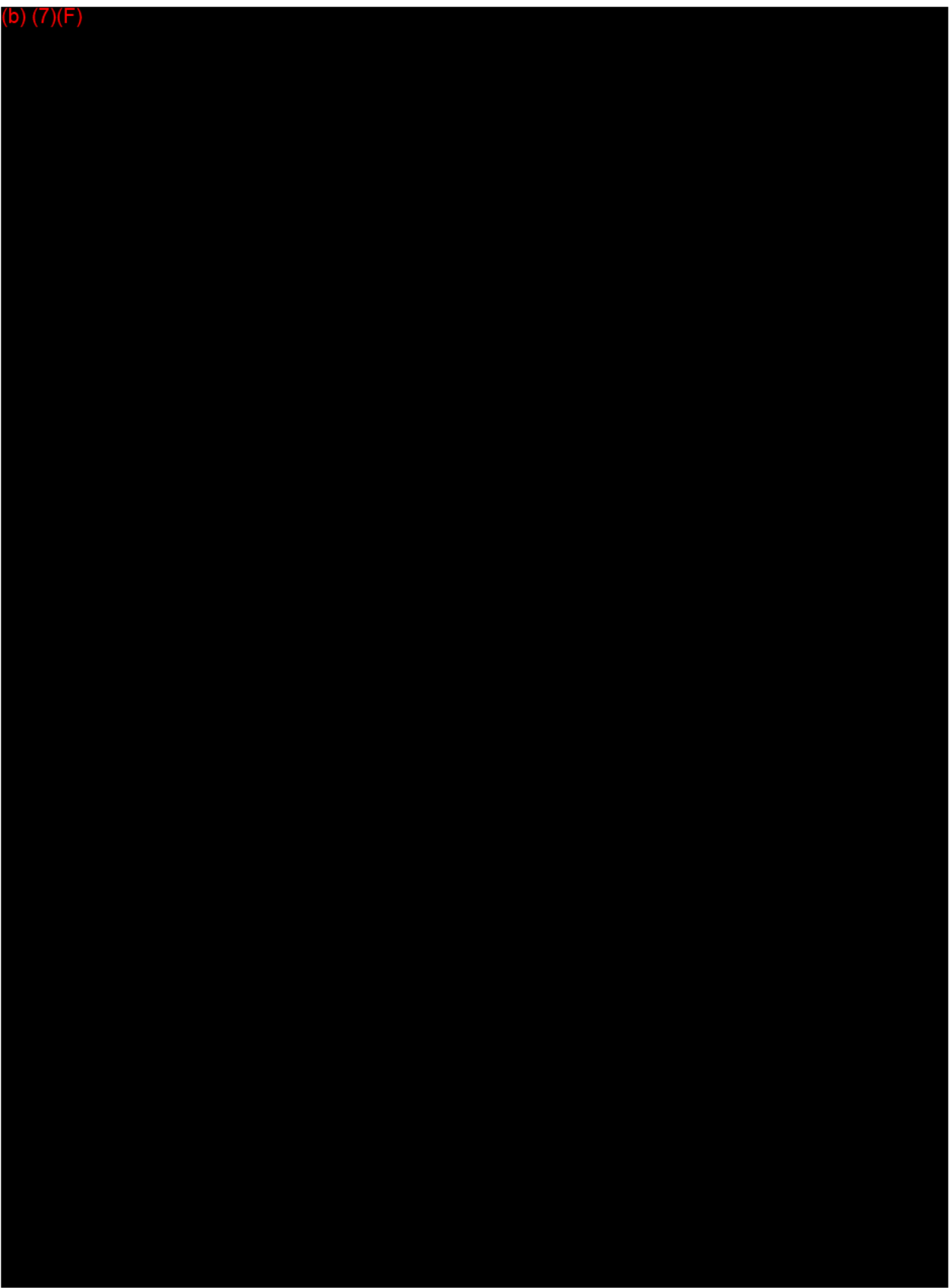
- All personnel in the terminal building will be notified verbally to evacuate.
- All personnel in the garage will be contacted to evacuate by calling telephone number 745-7915, which is equipped with a loud ringer.
- Everyone will convene on the front lawn of the terminal building. If the front lawn is adversely affected by the direction of the spill, everyone will be directed to exit the area through the personnel gate between the terminal and the refinery parking lot, and convene at the parking lot.
- The supervisor will conduct a head count and determine if there are personnel unaccounted for.

Benicia Asphalt Plant

There are two personnel assembly areas that have been designated for use during an emergency evacuation. They are 1) the Main Entrance Assembly Area, which is located by the scales just inside the plant's main gate and 2) the North Assembly Area, which is located at the northeast corner of the property adjacent to the wastewater treatment area and accessed by either of the two gates located north and east of Tank 1A.

The prevailing wind direction at the refinery is southwesterly, however, it does vary in the summer months to northeasterly. Use of the assembly areas depends on wind direction at the time of the emergency and location of the emergency. However, as a general rule, the following assembly areas are recommended during southwesterly or northeasterly winds:

Emergency Location	Assembly Area
Tank Farms	Main or North Area
Process Unit	Main or North Area
Tank Truck Loading Rack	Main Entrance
Rail Car Loading Rack	North Area
Operations Building	Main Entrance



EMERGENCY EVACUATION

ROUTES

Figure 240-3. Evacuation Plan Marine Terminal Berth 1.

(b) (7)(F)



243.2.TOXIC GAS RELEASE

The most dangerous gas in the refinery is hydrogen sulfide (H₂S).

Properties

Hydrogen sulfide is a toxic contaminant, which will be encountered in most all of our refinery operation. An atmosphere containing hydrogen sulfide falls into the category of gaseous contaminant, immediately posing a threat to life. *Its undesirable effects are not due to oxygen deficiency.* As concentrations above 1,000 ppm, hydrogen sulfide is a *deadly poison*.

Hydrogen sulfide has an offensive odor of rotten eggs. The lowest concentration detectable by smell is less than 0.10 ppm, but odor is not a reliable means of detection because sense of smell is rapidly lost by exposure to high concentrations. Acute hazard is high because effects are rapid and unconsciousness can occur before escape is possible. Hydrogen sulfide has an immediate and direct irritating effect on the eyes and respiratory passages. At high concentrations, however, the initial effect is overshadowed by its paralyzing effect on the respiratory center. *Death occurs rapidly.* The maximum allowable concentration for an eight-hour day is 10 ppm.

Precautions

If a hydrogen sulfide release occurs or is suspected:

1. Evacuate the area immediately. Go upwind.
 - a. Do not panic.
 - b. Hold your breath until in fresh air. Inhaling can cause almost immediate collapse.
 - c. *Under no circumstances should anyone enter the area until protected by fresh air equipment.*

Emergency Procedures

1. Notify the on-duty Shift Superintendent, Controllers and Operation Supervisors immediately by radio or by using the telephone and calling #2222. The telephone will ring in the Shift Superintendent office, the control room and the Lab, and will be answered by either the Shift Superintendent or one of the controllers. The Lab technician is not to pick up the phone until it has been answered in the control room.
2. The person making the call should give his/her name, the location of the release and wind direction so that help can be directed toward the release as quickly as possible.

3. The Shift Superintendent on duty will be in complete charge of the emergency and all orders should be issued through him or his designated representative, should he be away from the refinery area at the time of the emergency.

4. Toxic gas or vapor releases require the same response for the Process and Volunteer Fire Brigades as any fire emergency. Bunker gear and self-contained breathing apparatus are required. The Shift Superintendent may determine that bunker gear is not adequate but that some other form of protection would be better suited for the emergency (i.e., acid suits, entry suits, etc.). This should be done after the initial Process Brigade response.

Depending on the Size and Location of the Release and the Wind Direction, the Following Actions May be Taken:

1. General Actions:
 - a. Sound the emergency alarm for major release.
 - b. Evacuate the area immediately and go upwind if possible.
 - c. A thorough search of the area *must* be made immediately, with proper breathing equipment on, to insure that it is clear of all personnel.
 - d. If a person is overcome by hydrogen sulfide, he/she must be removed from the area to fresh air immediately. The victim should be kept warm and at rest. Artificial respiration must be administered if breathing has stopped.
 - e. Insure that the tape recorder is running on "A" control, then state date and time.
 - f. The Lab Technician should start the emergency checklist.
 - g. With proper breathing equipment, attempt to locate and secure the source of the leak.
2. Major Release.

A major toxic gas release is one that involves more than one unit. It could involve the entire refinery and outlying areas adjacent to the refinery. Quick and orderly response is needed to insure that all personnel are cleared from the affected areas and that proper action is taken to stop the release and/or shut down the equipment.

- a. Evacuation.

Depending on the extent of the toxic gas release, the Shift Superintendent will determine if the Emergency Evacuation Procedure will be initiated.

243.3 FIRE/EXPLOSION

Emergency procedures for situations involving fire/explosion, or threat thereof are essentially the same as described for toxic gas releases.

244 IMMEDIATE RESPONSE - SPILLS TO WATER

Reports of spills are made to the Refinery Shift Superintendent who will alert and dispatch the PT-SRT. Within minutes this team will report to the dock and is initially responsible for securing the leak and ensuring the safety of personnel. Concurrently, they make the necessary notifications, initiate appropriate containment and recovery actions, and assess the need to call for additional resources.

- This initial response, depending upon the circumstances, may involve the deployment of the on-site containment and recovery equipment. This includes the use of workboats, containment boom, sorbent boom, pads and/or skimmers. How this equipment is deployed is dependent upon many factors such as the source and location of the spill, and direction of wind and tidal currents.
- If the PT-SRT determines that the spill response is beyond its initial response capability, the first level of the SMT will be alerted. This is a specialized, pre-designated 20-member Refinery team that is trained and experienced in spill cleanup operations, supervision and administrative support. In the operations area, there are marine and shore supervisors, strategic planners and communications experts. In the administrative area, there are supply and transportation experts, accountants, as well as claims and complaints personnel. Also designated on the team are public affairs, government relations, wildlife, and waste management people. This second level of the Refinery's oil spill response capability augments the shift team with additional resources.
- NRC ES will be alerted and placed on standby for smaller spills and its response capability will be utilized appropriately as required by the size or effect of the spill. When NRC ES's response is requested, the NRC ES equipment will be directed to proceed to designated areas where the oil is predicted to migrate as a result of wind and tidal currents. Prioritization for the protection of pre-designated sensitive areas will be made and resources allocated based on spill trajectory or real-time observations.
- In the event of a catastrophic or worst case release to water, which the Benicia Refinery has projected to be (b) (7)(F) the third level of response will be initiated. In this case, the Refinery will have taken the steps outlined for PT-SRT and SMT response. The NRC ES response team will also be activated and mobilized. Additional resources from outside the area will be mobilized as needed. The Benicia Refinery Incident Commander will discuss with the Federal and State On-Scene Coordinators potential assistance from the Pacific Strike Team and the U.S. Navy, Supervisor of Salvage.

If a spill occurs from the Benicia Refinery dock, the spilled oil will normally move in a westerly direction on an ebb tide and in an easterly direction on a flood tide. The Refinery has identified several sensitive areas to protect. These areas are indicated on the charts in the ACP. The initial response by the Benicia Refinery response team will be to deploy boom to contain the oil. Simultaneously, contractor crews with containment boom will be instructed to proceed directly to the pre-designated sensitive areas and will be directed to deflect the oil away from those areas.

Small spills of a few barrels will be handled by Refinery personnel with the assistance of spill contractors as required. The NRC ES Cooperative will be informed of the spill and put on standby in the event its equipment and manpower is required.

- For medium sized spills, in addition to the first response by Valero personnel, NRC ES, Inc. may be activated and equipment and manpower may proceed to the spill site as required.
- If a large spill occurs, the SMT response is activated. In this event, NRC ES may be asked to respond with as much of its capability as required.

The PT-SRT may mobilize the 34 ft. Munson workboat, the 19-foot Boston Whaler, and deploy the boom. The goal will be to direct the oil to an access point on the dock where it can be recovered.

- The success of containing the oil near the dock depends upon several factors such as: current, wind, weather, and daylight conditions. If it is apparent that containment is not likely to be successful, NRC ES or other local spill contractors may be mobilized to protect the environmentally sensitive areas, or recover oil from the water.

The response will continue to escalate dependent upon the size of the spill and the movement of the oil away from the Benicia Refinery dock.

In the event of a spill, every reasonable effort will be made to contain the spill and remove it from the water surface. Wherever possible, the recovered oil will be recycled. If the condition of the recovered oil prohibits recycling, licensed waste haulers will be contracted and dispose of it.

If oil is stranded upon the shoreline, the oily debris will be collected and disposed of by licensed waste disposal contractors.

245 SHORELINE PROTECTION AND CLEAN UP PROCEDURES

Shoreline protection procedures are conducted to prevent oil impact to environmental or socio-economically sensitive resources. These procedures can include exclusion booming or installation of other physical barriers deflection of floating oil around a sensitive area are diversion of oil to an area of lessor sensitivity where it can be contained and recovered.

Under Unified Command, Benicia Refinery will utilize strategies appropriate for the potential impact sites. Shoreline protection and cleanup measures are also provided in the San Francisco Bay ACP sections 3600, 4500, and 9600.

Some shoreline cleanup measures may do substantial harm to sensitive areas. In all cases, consideration will be given to determining the most appropriate action(s) (including no action) to minimize the potential impact of cleanup operations.

246 ON-WATER CONTAINMENT AND RECOVERY

Local immediate response strategies were discussed in Section 222.3. Additional strategies and techniques for on-water containment and recovery are presented in the SF Bay Area Contingency Plan

247 CHEMICAL/BIOLOGICAL AGENTS

Alternate methods for cleanup may include the use of chemical cleaning products or bioremediation products. All require regulatory approval prior to use. Specific details regarding the use of chemical/biological treatment, including the approval process, is presented in the SF Bay Area Contingency Plan.

248 IMMEDIATE RESPONSE - SPILL TO LAND

The following actions for immediate response to land spills is provided for guidance only. Each situation must be assessed and the correct response actions determined.

In all cases:

- Identify source and stop spill if possible.
- Use explosimeter or other approved device to assure that response areas are safe to enter.
- Control or extinguish ignition sources.
- Advise personnel in the area of any threat, and/or initiate evacuation of endangered people. Inform affected system operators such as utilities, the telephone company, and railways.
- Apply sorbents to contain the spill.
- Initiate other containment operations to prevent spill from entering waterways (culvert blocking, diversion ditches, earth dams, etc.).
- If spill enters any underground piping system, contact operator immediately.
- For low flash oil: 1) use non-sparking systems; 2) have fire trucks/equipment nearby; 3) warn all involved of the spills potential flammability; and 4) consider allowing oil to spread over to large area (to reduce soil penetration and increase evaporation).

249 GROUP V OILS

Behavior

Group V oils are defined as those having a specific gravity greater than 1.0. When their specific gravity exceeds that of the ambient water, Group V oils will sink. Many will sink when fresh,

and most will sink when they have weathered. Group V oils that disappear from the surface may not, however, sink to the bottom. The differences in the relative weights of the oil and the water are critical. Some water bodies, particularly estuaries, are thermally and density stratified. An oil that is heavier than water at the surface may sink until it reaches a layer of higher density, and remain at that level. This phenomena occurs in San Francisco Bay due to thermal differences associated with tides and along the interface between fresh water river flow over the denser salt water from the ocean.

An additional estuarine phenomena which can influence the fate and movement of oil in the water column is related to turbidity. Oil can adhere to suspended sediment in the water column or be trapped by a process known as flocculation. In these cases, the oil sediment combination may be heavy enough to sink to the bottom and behave as a sediment.

Oil that reaches the bottom and adheres to or is incorporated in the bottom sediment will be subject to forces that control bottom sediment movement. Bottom drifter studies in San Francisco Bay have indicated a net onshore/inland movement of bottom sediment in some sections of the Bay. These studies, conducted by the U.S. Geological Survey, may be useful in emergency spill movement predictions.

Assessment

Presence and distribution of sunken oil can be observed directly through the use of divers and bottom or water column sampling devices. While these techniques are generally effective, they can be time consuming and may be hazardous.

Echo sounding systems have been successfully utilized for mapping of contrasting bottom features including oil and shallow submerged seagrass beds for a number of years. These systems, which interpret physical and acoustical characteristics of bottom sediments, range in sophistication from conventional depth sounders (fish finders) to specialized systems. It is recommended that the application of conventional depth finders be tested before attempting a more complicated approach.

A geophysical approach using specialized survey and data analysis techniques has been successfully used in the location of submerged oil (Haven and Tampa Bay spills). This approach combines a ROXANN interpretative system with conventional echo sounding equipment, satellite positioning equipment and positioning and charting software. The system interprets the echo sounder signal reflectivity and backscattering, and can be calibrated to produce real-time maps of oil distribution. Typically, dual frequency transducer combinations are utilized (38 and 120 kHz), with a separate ROXANN system configured for each frequency. The 38 kHz frequency will generally give greater sediment penetration and is preferred if only a single frequency transducer is available. Limited grab sampling or diver observation can be used to calibrate the system. The Approach has been applied successfully in water depths as shallow as 3 to 4 feet. The survey width (on the bottom) depends on the water depth. Historical surveys have been run using 25 to 50 meter line spacing. Typically, 20 to 30 nautical miles can be surveyed in a day.

Containment

No effective methods for the containment of submerged oil have been developed.

Recovery

A variety of techniques have been attempted, but none have been proven truly effective. These techniques include:

- Manual collection by divers
- Suction using vacuum systems (limited to shallow water)
- Recovery using submersible or airlift pumps
- Clam shell dredging
- Hydraulic dredging

In-Situ Burn

The In-Situ Burn Plan, Appendix XIII of the RRT IX Regional Contingency Plan, details in full the agencies, authorities, and process involved in making an in-situ burn use decision in US and State waters. At the time of an oil spill, the FOSC is authorized to evaluate the use of in-situ (“controlled”) burning. The use of in-situ burning should be considered when it will lessen the overall environmental impact of the spill, and when permitted under specified circumstances. However, the geographical area covered by this Agreement is the Pacific Ocean at a distance 35-200 nautical miles from the Mainland California Coast and the Benicia Refinery would not be able to use this option.

Dispersants

The Region IX RRT has established pre-approval zones and policies for the use of dispersants and in-situ burning. The Federal OnScene Coordinator (FOSC), in coordination with the Unified Command, will determine if use of these response technologies meet the pre-approval criteria established for Region 9. For the RRT-IX Dispersant Use Plan, see Appendix XII, and for the In-Situ Burning checklists, see Appendix XIII. Benicia cannot use dispersants because their use is only permitted greater than 3 nautical miles off the coast of California.

250 RESPONSE RESOURCES**251 BENICIA REFINERY RESOURCES**

The Benicia Refinery maintains a working inventory of spill response equipment including:

- Two SRV's containing 600 ft. of Boom each
- 400 ft Boom in place on Main Dock
- Two 1500 ft. on Boom Reels (east end of dock and west end of dock)
- Sorbent materials (boom and pads)
- Skimmers includes : 2 Komara 12k MkII skimmers suitable for recovery of oil from vessels, eight rope mop skimmers suitable for very shallow water/shoreline recovery (includes six small units which can be fitted to open top 55 gallon drums) and one small weir skimmer suitable for shallow water recovery.
- Several boats, of which two are suitable for boom handling.

These resources are available at dockside for immediate deployment. A detailed listing of equipment in Valero's working inventory is provided in Appendix C. Availability of trained Valero response personnel was summarized in the previous section.

252 PRIMARY OIL SPILL REMOVAL ORGANIZATION

The principal oil spill removal contractor for the Benicia Refinery is NRC ES. A copy of Proof of Contract is included in Appendix C. NRC ES will be alerted and/or activated in the event of any spill to SF bay or threat of a spill to the Bay, at any level of implementation of the Valero Benicia spill response organization. NRC ES maintains response equipment in excess of the planning CAPS specified for the spill planning scenarios developed in this response plan.

NRC ES can provide supervisory/spill response personnel. NRC ES mobilize skimmers and boom located at the Valero Benicia Dock and from the Martinez Marina, generally within an hour of notification. Other response capabilities can be activated through NRC ES.

NRC ES resources and capabilities are summarized in Appendix C and the OSRO Application.

253 VOLUNTEERS

In the event of a large spill, it is anticipated that volunteers will present their services to Benicia Refinery. The refinery does not direct-hire or supervise volunteers for emergency response activities. Refinery will, however, refer volunteers to appropriate government agencies or spill response contractors such as the International Bird Rescue and Rehabilitation Center for training and/or employment.

Benicia Refinery Spill Management Team will appoint a Volunteer Coordinator from the Public/Government Affairs staff to direct inquiries, should significant inquiries be received.

261 OVERVIEW

In the event of an oil spill that cannot be contained and recovered locally, protection of nearby sensitive areas may be necessary. A critical initial step in protecting sensitive resources is their identification. Once these resources have been identified, decisions need to be made as to the proper protection techniques for each locale and the priority for application of resources to each sensitive site. The information necessary to make these decisions is presented in the ACP. This information includes:

- Implementation sequence for protection of sensitive areas.
- Different ecologically and culturally/economically sensitive areas.
- Various coastal marine habitats presented in order of their relative sensitivity to oil spills based on the Ecological Sensitivity Index (ES) system used by the National Oceanic and Atmospheric Administration (NOAA).
- Methods for protecting these sensitive resources.
- Guidelines for selecting the appropriate protection methods for each resource.
- Prioritization schemes for determining the order for protecting the resources.
- Maps, which show the sensitive resources that could be affected by oil spills, based on the spill envelopes
- Booming strategies for specific areas within the spill envelope of the evaluated spills.

262 ENVIRONMENTALLY SENSITIVE RESOURCES AT RISK

This section summarizes the environmentally sensitive sites that may be impacted from the Reasonable Worst Case Discharge (RWCD) spill at the facility. The list reflects the spill trajectory developed by the Offsite Consequence Analysis (OCA) located in Section 320. This is to be used as only a guide and should be adjusted with consideration of actual conditions and reported spill locations.

Information on the individual sites is provided from the Area Contingency Plan (ACP). This information should be used for initial planning of operations for protection and recovery of a spill. The latest copy of the ACP should be consulted to ensure the most recent updates are being considered.

Table 260-1 provides a listing of the environmental sensitive sites based on the OCA 72-hour trajectory from a 4,290-bbl. Crude oil spill. Weather conditions were based on typical winter seasonal parameters and wind was 5-10 kts from the SW to SE.

The ACP sites are listed by the time of initial impact in the trajectory. This should only be used as an initial guide for actual response. This list may not be complete. Environmentally sensitive resources should be identified in conjunction with regulatory agencies for each incident.

Following Table 260-1, excerpts from the ACP for Geographic Response Plans for areas identified at risk by the OCA.:

GRP 6 - Carquinez Straits/ Suisun Bay

GRP 7 - West Delta

Each GRP information provides a key map of the area and a listing of resources required for the respective strategy. Refer to the ACP for the most current resources and strategy description..

TABLE 260-1 Timed Site Index/Response Actions

Site ID	Impact BY HR (Ref. OCA)	Site Description	Assignment	Date/Time Required	Date/Time Completed
SF-630C	4 HR	Suisun Shoal			
SF-631	6 HR	Roe Island			
SF-632	6 HR	Ryer Island			
SF-654	6 HR	Goodyear Marsh			
SF-665	12 HR	Simmons Island			
SF-603	18 HR	Bulls Head Marsh and Pacheco Creek			
SF-633	18 HR	Middle Ground Island			
SF-652	24 HR	Benicia Marsh			
SF-660	24 HR	Grizzly Bay			
SF-667	24 HR	Freeman & Snag Islands			
SF-673	24 HR	Honker Bay East – Chipps Island Shore			
SF-651	36 HR	Southampton Bay			
SF-655	36 HR	Joice Island, Suisun Slough, and Montezuma Slough			
SF-670	36 HR	Honker Bay			
SF-671	36 HR	Honker Bay West – Wheeler Island Shore			
SF-672	36 HR	Honker Bay North – Spoonbill Ck and Vansickle Island			
SF-712	36 HR	Winter Isl.			
SF-760	36 HR	Montezuma Slough			
SF-705	48 HR	Mallard Isl.			
SF-601	N/A	Martinez Marsh and Shell Dock Marsh			
SF-605	N/A	Hastings Slough, Point Edith and Seal Islands			
SF-607	N/A	Belloma Slough			
SF-608	N/A	Shore Acres Marsh			
SF-668	N/A	Dutton Island			
SF-680	N/A	Suisun Marsh West; Suisun Slough Drainage			
SF-690	N/A	Suisun Marsh Central: Grizzly Isl			
SF-695	N/A	Suisun Marsh North: Denverton / Nurse Slough Drainage			

Note 1: The time for impact is based on discharge on slack before flood, winter conditions, and
wind 5-10 kts SW to SE

Note 2: For use in a response, adjust priority as current conditions dictate.

INSERT GRP INFORMATION

ACP 2 - SF Bay & Delta

INSERT GRP INFORMATION

Note: Marker symbols (t

ACP 2 - SF Bay & Delta GRA6

INSERT GRP INFORMATION

2600		
2-632	<i>River Island</i>	
.1	- Exclude oil from enteri	
2200	1100	3000
.2	- Deflect oil away from s	
400		
.3	- Reducing south shore	
0	2600	
2-633	<i>Middle Ground Isl</i>	

ACP 2 - SF Bay & Delta G

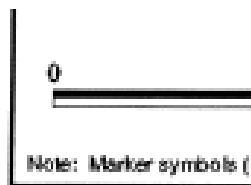
INSERT GRP INFORMATION

1500	
3	Protective booming of
0 0000	
2-670 Hunter Bay	
1	Skimming to intercept
000 700	
2	diversion to collection
1300	

ACP 2 - SF Bay & Delta G

INSERT GRP INFORMATION

ACP 2 - SF Bay & Delta GRAE

INSERT GRP Information

ACP 2 - SF Bay & Delta

INSERT GRP Information

600	200	400	6
. 2 - When oil is approaching			
3000			8
. 3 - If heavy oil is threatening			
0	300		2
. 4 - Protective booming of the			
1000		8	100
. 5 - Protective booming of the			
10000		0	14

ACP 2 - SF Bay & Delta

INSERT GRP Information

ACP 2 - SF Bay & Delta

263 **ECONOMICALLY IMPORTANT RESOURCES**

The following list identifies recreational and economically important areas in the San Pablo-Suisun Bay area that may require special protection in the event of an oil spill. In addition, information for other economically important resources is listed in the San Francisco Bay ACP sections 4600, 5400, and 9600.

1. Parks, public beaches and recreation areas.
 - Browns Island Regional Shoreline
 - Carquinez Strait Regional Park
 - Martinez Regional Shoreline
 - Benicia State Recreational Area
 - San Pablo Bay Regional Shoreline
 - Point Pinole Regional Shoreline
 - John F. McInnis Park (Co.)
 - China Camp State Park
 - Corte Madera State Ecological Reserve
 - Miller Knox Regional Shoreline (Cypress Point)
 - Brooks Island Regional Preserve
 - Point Isabel Regional Shoreline
 - Paradise Beach County Park
 - Angel Island State Park
 - Golden Gate National Recreation Area
 - China Beach
 - Baker Beach
 - Ft. Point National Historic Site/Beach
 - San Francisco N. H. Park (Aquatic Park)
 - Candlestick Park

- Robert Crown Memorial State Beach
 - San Leandro Bay Regional Shoreline
 - Oyster Bay Regional Shoreline
2. Industrial and drinking water intakes, power plants, and other similarly situated underwater structures.
- Mallard Slough Drinking Water Intake for Contra Costa Water District. (This is a secondary intake. The primary intake is located approximately 11 miles east-southeast of the town of Antioch.)
 - Mirant Delta Power Plant and POSCO Plant intakes in Antioch
3. Known historical and archaeological sites.
- Sites of known shipwrecks are listed in the RRM.
4. Marinas and Boat Ramps.
- Mira Monte Marina
 - San Pablo Bay
 - Port Sonoma Marina
 - Hudeman Slough Boating Facility
 - Mare Island Strait
 - Vallejo Municipal Marina
 - Crockett Marine Service
 - Glen Cove Marina
 - Benicia Marina
 - Pierce Harbor
 - Solano Yacht Club
 - Paul's Boat Harbor
 - San Joaquin River

- Pittsburg Marina
- Honker Bay
 - several yacht harbors
- Carquinez Strait - Martinez
 - Martinez Marina
- San Pablo Bay - Rodeo
- Gallinas Creek - San Rafael
- San Pablo Bay - San Rafael
- San Rafael Canal
 - Loch Loomed Marina
 - Laurie Yacht Harbor
 - Marion Yacht Club
 - San Rafael Yacht Harbor
- Point San Pablo Yacht Harbor
- Redneck Marina

271 OVERVIEW

Oil spill response and cleanup operations will generate a variety of materials which typically include recovered oil and oily water, spent (oily) sorbent materials, oily vegetation, debris and sediment, oiled protective clothing, spent cleaning agents, waste paper and plastics, garbage, sanitary wastes and dead animals. Some of these materials can be recycled and some must be managed as waste. Recycling is the preferred option, whenever practical.

The management of oil and waste materials, including recycling, treatment, storage, and disposal, must comply with the standards set forth in 40 CFR Parts 260 through 268 as mandated by the Resource Conservation and Recovery Act (RCRA) and California Code of Regulations Title 22, Division 4, Chapter 20.

Benicia Refinery is responsible for the appropriate storage, treatment and disposal of recovered oil and wastes from spills for which it is the "Responsible Party". This responsibility may include waste classification, obtaining appropriate permits, proper operation of storage and treatment areas, manifesting and disposal.

Several forms are provided to assist in the preparation for, and tracking of waste disposal operations. Figure 270-1 presents a worksheet for development of a Waste Disposal Action Plan. Figure 270-2 provides a method for tracking the status of disposal operations (Waste Disposal Status Update).

well injection

Locate resources

Figure 270-1. Waste Disposal Action Plan.

Signature of User: _____
Telephone: _____

Figure 270-1. Waste Disposal Action Plan (continued).

E. Waste Storage and Tr.

Shipping methods/con

Figure 270-2. Waste Disposal Status Update.

Signature of User: .

Telephone: .

Attachments: Oi

272 CLASSIFICATION/HANDLING

Recovered product, contaminated debris and materials and other wastes generated during a spill response each have different handling and recycling/disposal requirements. In general, spill generated material will fall into the following categories:

- Recovered Oil
- Oily Synthetics (sorbents, protective equipment, etc.)
- Oily debris (seaweed, other vegetation, sediment, drift wood, etc.)
- Animal Carcasses

The flow diagram presented in Figure 270-3 presents these categories of waste and their general disposal options. Domestic and sanitary waste is also generated during a spill response, but are not discussed as part of this response plan.

In general, keeping each waste category separate from the beginning of the response action facilitates handling and disposal of these materials. For example, contaminated synthetic materials should be segregated from oily organic debris and dead animals. Waste segregation can be accomplished in the field by bagging different categories of material in different colored or marked bags.

Recovered materials that cannot be recycled must be formally characterized to determine their waste classification prior to shipment and/or disposal. Actual testing may be conducted on representative samples of each type of waste by a state certified laboratory.

CCR Title 2266264.13 and 66265.13 require that a detailed chemical and physical analysis of a representative sample of each type of waste be conducted prior to treatment, storage or disposal facility transfers. Characterization of the waste must be provided to DTSC (via profile sheet) who will then designate the waste acceptable prior to shipment. State characterization criteria are found in CCR Title 22, 66261.10 and 66261.20-66261.24, while federal criteria are found in 40 CFR 261.30-261.33. Based on waste characterization, the wastes can be further defined as federal RCRA waste (hazardous waste regulated under federal regulations) or non-RCRA waste (hazardous waste regulated under California regulations).

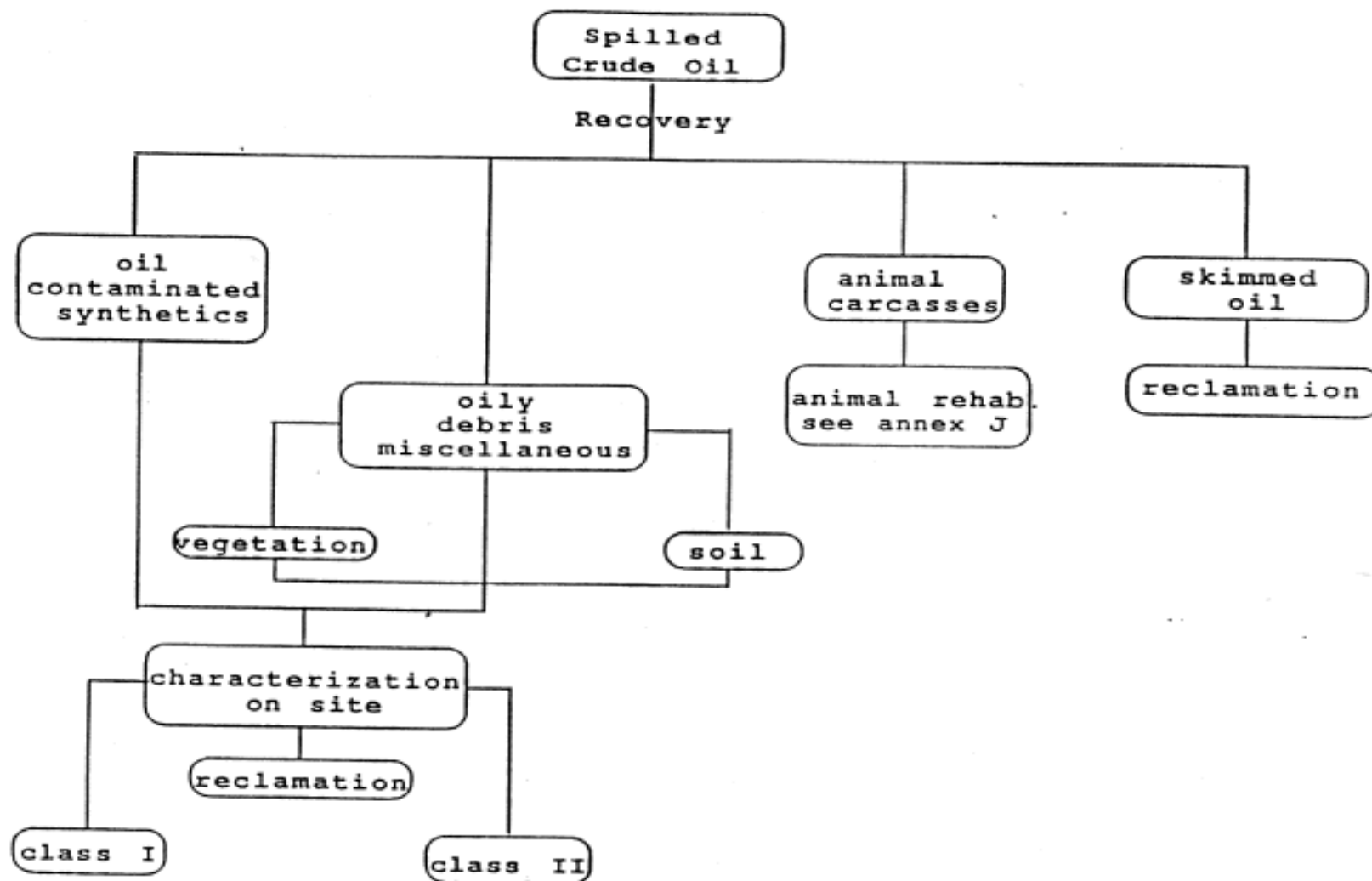


Figure 270-3. Waste Classification Flow Sheet.
270-7

273 RECOVERED OIL

Under California law, material released or discharged to marine waters of the state are defined as waste. Once the final disposition of a specific waste is determined, the waste may be redefined as a product or material and no longer subject to waste management requirements. Crude oil spilled to marine waters, recovered and transported to a refinery are considered a product and not subject to waste management regulations (California Health and Safety Code[CHSC] 25250.3) if the collected crude oil is shipped to the refinery of original destination or a refinery that can accept the spilled oil. Refined products that are recovered from marine waters may also be handled as product if they can be used for their originally intended purpose.

Recovered petroleum may also be managed as a material (CHSC 25143.2) if it can be recycled through incineration, as a fuel, a substitute for raw material feedstock, or as an ingredient used in the production of a product (i.e., asphalt). The California Environmental Protection Agency, Department of Toxic Substances Control should be consulted with regard to these management alternatives.

Recycling of recovered petroleum will be given top priority. Recovered petroleum will be evaluated by refinery personnel to determine its suitability for recycling at the refinery. If it is determined that the recovered fluids are not acceptable for recycling by the refinery, they must be managed as a waste. In the later event, the waste must be characterized by a state certified laboratory to determine if it is hazardous or non-hazardous (Title 22, Sec. 66260.2000(c) of 22 CCR).

274 DISPOSAL OF WATER SEPARATED FROM RECOVERED OIL

Oil recovery operations typically involve collection of large volumes of water. If oil can be separated from the water at the point of collection, storage, handling and treatment requirements are reduced, improving the overall speed and effectiveness of the operation. The process involves discharging the separated water (which may contain some level of hydrocarbons) back into the water body, and requires state approval. On a case-by-case basis, the State Water Resources Control Board may determine that the discharge of separated water, at the site of an oil spill, during the course of an emergency response, does not require a National Pollutant Discharge Elimination System (NPDES) permit. The on-scene representative of the San Francisco Bay Regional Water Quality Control Board (SFBRWQCB) should be contacted regarding State waste discharge requirements and emergency permits.

275 DISPOSAL OF DEBRIS AND OTHER MATERIALS

275.1 OILY SYNTHETICS AND DEBRIS

Contaminated debris, including sorbents and other materials that cannot be recycled must be managed as waste. These materials must be characterized before the appropriate waste management option is determined. As previously stated, efforts should be made to differentiate between synthetic and organic materials. To the degree possible highly contaminated and lightly contaminated materials should be separated.

Solid, non-recyclable waste or treatment residue may need to be disposed of at a licensed disposal facility. Since the cost for sending non-recyclable oily waste to a disposal facility is

significant, the amount of waste to be disposed should be minimized to the maximum extent possible given the economic and technical constraints.

Oily debris containing vegetation, trash or other materials would be transported for disposal to an approved California Department of Toxic Substances Control (DTSC) hazardous waste site. Disposal of this oily debris must comply with the applicable regulations of the:

- U.S. Environmental Protection Agency
- California Department of Toxic Substances Control
- Regional Water Quality Control Board

To ensure compliance with these regulations:

- Obtain a Generator I.D. number from the DTSC (916) 324-1781).
- Have an approved laboratory run analysis on the oily waste, if necessary, to determine if the waste is to be disposed of as hazardous or non-hazardous.
- Record shipments on a hazardous or non-hazardous waste manifest.
- Use only approved haulers.
- Make sure that the approved haulers use only approved disposal sites.

Cleanup operations may also generate volumes of contaminated soil and sand. Recycling of these materials should also be considered. For soils satisfying the waste profiling requirements of the state and commercial facilities, reuse as landfill cover or construction material (i.e. cold-mix or hot batch asphalt) may be possible.

275.2 ANIMAL CARCASSES

Oiled animals and carcasses should be collected and turned over to the California Department of Fish and Game, Office of Oil Spill Prevention and Response (OSPR) representatives who will be responsible for 256 Transportation. These animals, living and dead will be evaluated as part of any Natural Resource Damage Assessment. Their collection and release to OSPR must be coordinated with damage assessment personnel (coordinate through the Benicia Refinery Incident Commander.

276 TEMPORARY STORAGE

In spill situations where relatively large quantities of oil and waste materials are recovered, temporary storage may be required until a final management method is selected. In addition, the segregation of wastes during cleanup according to type and classification would facilitate subsequent disposal. The storage method used would depend upon:

- The type, classification and volume of material to be stored;

- The type of contaminants present if any;
- The duration of storage;
- The environmental setting;
- Issuance of an emergency permit and concurrence of DTSC and RWQCB; Access;
- The time of year.

During an oil spill incident, the volume of oil that can be recovered and dealt with effectively would depend upon the storage capacity available. Typical short-term storage options are summarized in Table 270-4. In addition, environmental conditions or locations may call for some type of special containment needs. If storage containers such as bags or drums are used, the container should be clearly marked and/or color-coded to indicate the type of material/waste contained and/or the ultimate disposal options. Bladder or pillow tanks would be acceptable if the space available is capable of supporting the weight of both the container and product.

Certain site preparations shall be performed at temporary storage sites to minimize contamination of the native soil. An earthen berm should be constructed around the perimeter of the storage site. If a paved parking lot is used, soil for construction of the berm can be imported from local sources. Entrance and exit ramps shall be constructed over the berm to allow equipment access to the site. If the substrate of temporary structure is permeable, several layers of plastic sheeting shall be spread over the berms and across the floor of the storage site in order to contain oil leachate. A front-end loader should be stationed at each storage site to evenly distribute the recovered oiled solid material and to load trucks that may transport the material.

277 WASTE TRANSPORTATION

Licensed Transporters are required for the transportation of hazardous wastes for offsite, storage, treatment or disposal. All transport of waste materials must be in accordance with applicable DOT regulations. A listing of licensed transporters is presented in the ACP.

Transportation of hazardous materials will require the completion of a Uniform Hazardous Waste Manifest (UHW) for each shipment. Copies of these manifests can be used to assist in the documentation of volumes of waste generated. A blank UHW is provided in Figure 270-4.

Table 270-4. Temporary Storage Methods.

Container	Onshore	Offshore	Solids	Liquids	Notes
Barrels	X	X	X	X	May require handling devices.
Tank Trucks	X	X		X	Consider road access onshore. Barge-mounted offshore.
Dump/Flatbed Trucks	X		X		Require impermeable liner and cover. Consider flammability of vapors at mufflers.
Barges		X	X	X	Liquid only in tanks. Consider venting of tanks.
Oil Storage Tanks	X	X		X	Consider problems of large volumes of water in oil.
Bladders	X	X		X	May require special hoses or pumps for oil transfer.
Pits	X		X	X	Liner(s) required. Emergency permit required.
Roll-Off Bins	X	X	X		Require impermeable liner and cover. Barge-mounted offshore.
Portable Tanks (Baker Tanks Poly Tanks)	X			X	Liquid only in tanks. Secondary containment required.

State of California—Health and Welfare Agency
Form Approved OMB No. 2060-0038 (Expires 9-30-91)

See Instructions on Back of Page 6
and Front of Page 7

Department of Health Services
Toxic Substances Control Division
Sacramento, California

Please print or type. (Form designed for use on either 12-pitch typewriter).

IN CASE OF AN EMERGENCY OR SPILL, CALL THE NATIONAL RESPONSE CENTER 1-800-424-9802; WITHIN CALIFORNIA CALL 1-800-862-7550

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No.		Manifest Document No.		2. Page 1 of _____		Information in the shaded areas is not required by Federal law.	
3. Generator's Name and Mailing Address						A. State Manifest Document Number 90035908			
4. Generator's Phone () _____						B. State Generator's ID _____			
5. Transporter 1 Company Name			6. US EPA ID Number			C. State Transporter's ID _____			
7. Transporter 2 Company Name			8. US EPA ID Number			D. Transporter's Phone _____			
9. Designated Facility Name and Site Address			10. US EPA ID Number			E. State Transporter's ID _____			
						F. Transporter's Phone _____			
						G. State Facility's ID _____			
						H. Facility's Phone _____			
11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)						12. Containers		13. Total	
						No. Type		Quantity	
a.								14. Unit Wt/Vol	
								I. Waste No.	
								State	
								EPA/Other	
b.								State	
								EPA/Other	
c.								State	
								EPA/Other	
d.								State	
								EPA/Other	
J. Additional Descriptions for Materials Listed Above						K. Handling Codes for Wastes Listed Above			
						a. b. c. d.			
15. Special Handling Instructions and Additional Information									
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.									
Printed/Typed Name						Signature			
						Month Day Year			
17. Transporter 1 Acknowledgment of Receipt of Materials									
Printed/Typed Name						Signature			
						Month Day Year			
18. Transporter 2 Acknowledgment of Receipt of Materials									
Printed/Typed Name						Signature			
						Month Day Year			
19. Discrepancy Indication Space									
20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in item 19.									
Printed/Typed Name						Signature			
						Month Day Year			

DHS 8022 A (1/88)

EPA 8700-22

(Rev. 9-88) Previous editions are obsolete.

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To: P.O. Box 3000, Sacramento, CA 95812

Figure 270-4 Uniform Hazardous Waste Manifest.

310 RISK AND HAZARD ANALYSIS**311 OVERVIEW**

A risk and hazard analysis was conducted during the period of March 23 to March 30, 1994 to meet the requirements of the State of California Oil Spill Prevention and Response Act (OSPRA), specifically, the requirements of Sections 817.02(c)(1), (4), and (5). The purpose of the analysis was to identify hazards associated with OSPRA-regulated operations, which could result in the release of oil to marine waters, and to identify prevention measures for sources of potential releases. Portions of the facilities covered by the California Aboveground Storage Tank regulations were excluded from the analysis. Dock and offsite pipelines were evaluated up to the first block valve within containment. While evaluation of potential hazards such as fire and explosion are beyond the scope of OSPRA requirements, the actual analysis performed was conducted under Benicia Refinery standards and was not limited to evaluation of hazards which could lead to the release of oil to marine waters.

312 HISTORY OF SIGNIFICANT SPILLS

Table 300-1 summarizes spills in the last 10 years that were "significant" i.e., "had an impact on the environment" or caused the physical layout of the facility, or the facility's operating procedures to be modified.

Table 300-1. History of Significant Spills.

Site/Source	Cause and Size	Impact	Corrective Action
1/30/85 - dock sump tank	sump overflow, pump failure, 5-10 gal.	spill to containment	modified drain procedures, evaluated pump materials
3/4/85 - on shore sump near dock, Huntway tie-in	flange leak blown gasket; Huntway/Getty transfer; 300 bbls crude	spill to containment	replace blind and improve pipe supports
5/16/85 - dock, Crowley barge unloading	barge overflow due to backflow, 20 bbls PGO on deck, much less to water	spill to water and dock	incident review for training
3/11/86 - pipeline high point sump	sump overflow, vent valve left open, 5-10 bbls	oil to soil and water in a local park, response action	incident review, pursued high level alarms for offsite sumps
9/27/86 - on shore sump near dock	sump overflow by stormwater, 5-10 gal.	crude oil to water, response action	improved storm drain maintenance, increased containment capacity with redesigned sump
3/21/92 - dock line #2 bleeder valve	bleeder valve left open, <5 gal.	spill to soil and water, response action	incident review for training
12/13/03 – KHGO Spill at shore valve area	Dock line leak, est. 1,000 bbls	No oil to surface waters	Line repaired and inspected Sleeper pads installed New pipe support brackets installed at dock
1/28/03 – Crude Oil Leak at TK-1702	Shaft on mixer came out during maintenance	Approx. 3-4 inches of oil soaked soil from about 90 firewall removed Change of procedures Design change of mixer	Update list 10-20 bbls to Sulfur Springs

	BLANK		

313 HAZARD ANALYSIS METHOD

A Hazard Analysis was conducted for the oil transfer operations at the Benicia Refinery. This study was conducted to meet 1994 requirements of California OSPR. The results of this analysis have been incorporated into this plan.

The Benicia Refinery and Berth 1 ownership has been transferred from Exxon U.S.A. to Valero Energy Corporation; however, the operating policies, procedures, and activities remain comparable. Consequently, the original analysis for the Benicia Refinery is considered to present valid identification of potential causes and consequences for transfer operations.

The Asphalt Plant have been acquired by and operated as another unit of the Valero Benicia Refinery. The operating policies, procedures, and activities remain comparable to that of Berth 1. Consequently, the risk and hazard analysis conducted for Berth 1 of the Benicia Refinery is considered to be representative of the potential types of causes and consequences for operations.

The discussion in Section 313 has been maintained from the original oil spill plan for the Benicia Refinery.

The Knowledge Based Hazard and Operability study method was determined to be appropriate for this facility, based on the guidance provided by the AIChE publication "Guidelines for Hazard Evaluation Procedures, Second Edition", including specifically Figures 5.2 and 5.3 of that publication. Factors that support the use of a Knowledge Based HAZOP study include the lack of a need for a quantitative risk assessment, the existence of specific operating procedures and known history of spill events, and the nature of the facility and its operations. The analysis included specific line by line review of system P&ID's, development of what-if scenarios to challenge the system design and operating/maintenance procedures, and identification of potential preventative measures.

The Knowledge Based HAZOP Study addresses the risks of oil spills posed by the current facility and its operating procedures and practices. Significant changes to the facility could affect the applicability of this hazard evaluation.

Records of the HAZOP Analysis are maintained on file at the refinery.

314 EXPERTISE OF ANALYSIS GROUP

The HAZOP working group included the following individuals:

John Lee, HAZOP Leader — Mr. Lee has over 25 years of experience in a broad range of engineering and operations assignments the Benicia Refinery. He is a member of Exxon USA Refining HAZOP Leader's Steering Committee. He has conducted many HAZOP studies on both processing and offsite facilities for a number of operations.

Floyd Duggins, Team Member — Mr. Duggins has over 30 years of experience in refining operations as technician, control supervisor, and shift superintendent. He is experienced in oil spill mitigation through experience including the Valdez cleanup operations. He has participated in interfunctional dock audits at other facilities.

Ed Vegas, Team Member — Mr. Vegas has over 20 years of experience in refinery operations,. He is a qualified dock, oil movements and controller assistant technician. Mr. Vegas is qualified as a HAZMAT technician.

Peter Hendricks, Team Facilitator — Mr. Hendricks is a contractor with ENTRIX, Inc. He has over 10 years of experience in refinery operations, assisting in the preparation of oil spill contingency plans, offsite consequence analysis and spill prevention, control and countermeasure plans.

315 RESULTS OF HAZARD ANALYSIS

An inventory of the hazards identified in the HAZOP study is presented in Table 300-2. This table also summarizes control measures to mitigate or eliminate the hazards identified, including those that resulted in historic spills. This table also summarizes potential spills, which may occur after any mitigating controls have been implemented. Table 300-3 presents a time frame for implementation of recommendations.

Table 300-2. Summary of Risk and Hazard Analysis.

HAZARDS IDENTIFIED	POTENTIAL OIL DISCHARGE (2.)	CONTROL MEASURES TO MITIGATE OR ELIMINATE HAZARDS (3.)	POTENTIAL OIL SPILLS THAT MIGHT STILL BE EXPECTED TO OCCUR (4.)
pipeline failure below Carquinez Strait due to seismic event or corrosion	spill to water	existing inspection and testing, helicopter flyover during transfers, instrumentation for automatic alarm and shutdown	reduced likelihood of spill to water
pipeline failure between dock and high point due to seismic event	spill to containment or water	existing catchment basins, check valves in crude line maintenance and inspection	spill to containment
high point vent sump overflow	spill to local park*	consider sump high level alarm and spring loaded vent valve	none
vessel rams dock	part of vessel inventory to water	existing procedure to delay transfer until dock and vessel integrity is verified by visual inspection	reduced likelihood of spill to water
dock sump tank overflow by flush header drain flow	spill to water and/or containment	consider flow restrictor in flush header drain, matched to sump pump capacity	none
loading arm failure during transfer	spill to water	existing range limit alarms, line tension gauges, procedures	reduced likelihood of spill to water
purge header thermal expansion	minor leak, to containment	consider procedure to partially drain header after use	none
tubing failure at CBO sample point	minor leak, to containment	consider restricted valve opening to limit flow	reduced leak, to containment
pinhole leak in dock sump tank due to corrosion	small leak, to water	consider regular inspections	reduced likelihood of small leak to water
spill during sampling due to H ₂ S	small spill, to containment	consider spring loaded sample	spill to containment limited to sample volume

Table 300-2. Summary of Risk and Hazard Analysis (continued).

HAZARDS IDENTIFIED	POTENTIAL OIL DISCHARGE (2.)	CONTROL MEASURES TO MITIGATE OR ELIMINATE HAZARDS (3.)	POTENTIAL OIL SPILLS THAT MIGHT STILL BE EXPECTED TO OCCUR (4.)
residual oil leakage from air hoses used for venting	<1 quart, to water*	procedure modified to have hose ends clipped after use, increased attention to use of hoses	none
bleeder valve left open	spill to containment, soil, or water*	procedures modified to verify drain valve positions, incident review, training, and disciplinary actions implemented	reduced likelihood of spill to containment, soil, or water
flange failure during Huntway transfer	300 bbls crude, to containment*	replace blind, improve pipe supports	none
barge overflow due to backflow	20 bbls PGO to deck containment, much less to water*	incident review, existing hookup and transfer procedures	reduced likelihood at spill to vessel containment or water
overpressure due to incomplete documentation of remote 3rd party facilities	spill to containment	consider P&ID update to add Texaco and Wickland facilities	reduced likelihood of spill to containment
glycol drums stored outside of containment	55 gallons glycol, spill to water	consider remote glycol storage	none
release of oil from containment via unlocked drain valve	spill to soil or water	install chain and lock drain in closed position	reduced likelihood of release to oil from containment drain
oily water release from old ballast water tank due to corrosion	small spill to soil	consider proper abandon in place using purge and drilling mud pack	reduced likelihood of spill to soil
NOTE: The risk and hazard analysis considered many additional scenarios, including social unrest and failure of various equipment items. Existing inspection, maintenance, security, and operating procedures appear sufficient to prevent major oil discharges in the scenarios evaluated.			

* = historic event

Table 300-3. Time Frame for Implementation of HAZOP Recommendations.

<u>HAZOPS FINDINGS</u>	<u>RECOMMENDATION</u>	<u>RESPONSE</u>
There exists the possibility of a minor leak into the containment area on short sections of out of service piping which are left full after use. Possible thermal expansion. S-100	Consider procedures to partially drain header after each use.	4Q94 Procedures in place Complete
There exists the possibility of a leak due to tubing failure at the sample valves in the dock sample shelter due to valve is wide open without a handle. (S-101)	Consider reinstalling the handle and just cracking open the valve to catch samples.	3Q94 Complete
There exists the possibility of leakage from dock sump due to corrosion under insulation. (CUI) (S-102)	Consider regular inspection for CUI and general thinning	Completed initial inspection 2Q94. Put on 5-year interval in Inspection CUI list. Complete
There exists the possibility of H2S exposure to dock personnel at heavy on loading arm sample point due to a manual sample valve. (S-103)	Consider the use of a spring loaded sample valve.	2Q95 Spring –loaded valve installed Complete
There exists the possibility of inappropriate changes on offsite pipelines due to remote third party facilities not fully documented. (S-104)	Consider updating P&ID's to reflect Texaco and Wickland facilities and their safety protective systems.	3Q95 P&ID's updated Complete
There exists the possibility of overfill at the dock sump due to a large drain valve left open on the flush header. (S-105)	Consider some sort of restriction on flush header drain to restrict flow to less than the sump pump capacity. (100 gpm)	3Q95 procedures in place and adequate Complete
There exists the possibility of leakage from the dock sump drain piping due to CUI going undetected. (S-106)	Consider regular inspection for all sump drain lines under the dock.	Completed initial inspection 2Q94. Put on 5-year interval in Inspection CUI list. Complete
There exists the possibility of glycol spill at the Dock Vapor Recovery Unit due to 55 gal. drums located outside of spill containment. (S-107)	Consider remote or spill containment storage of glycol.	4Q94 containment installed Complete
There exists the possibility of release of misting jet fuel to the atmosphere at jet fuel filters due to atmospheric discharge of fire contingency safety valves due to spring failure. (S-108)	Consider alternate disposition to a closed system. Sump may be OK with submerged discharge If no explosive mixture is released.	4Q95 Complete
There exists the possibility of inadvertent release of chemical additives at crude and PG0 chemical injection due to temporary facilities at chemical injection which have become permanent. (S-109)	Consider addressing more permanent facilities for chemical Injection which address area classification, use of hoses, etc.	Change record completed for facilities upgrade Engineering developing estimates 3Q95 Upgraded systems and installed containment in area Complete
There exists the possibility of release of hydrocarbon from drain spill at the parking lot due to the drain valve not being locked closed. (S-110)	Install chain and lock on the drain valve.	Installed lock and chain. Complete
There exists the possibility of spill from overpressure of 150#; piping system at dock unloading arms and pipe due to	Check with Exxon International to ensure that charters include safety review for potential	ECI reports that virtually all ships have 1 Son internal relief valve settings as part of being

<u>HAZOPS FINDINGS</u>	<u>RECOMMENDATION</u>	<u>RESPONSE</u>
charter ships which may not have overpressure protection for an emergency shutdown. (S-111)	overpressure.	classed by insurers. All US flag vessels are tested annually by federal regulation. Complete
There exists the possibility of spill at the high point vent area due to operator illness during packing operations. (S-112)	Consider the need for spring loaded 1/4 turn valves which fail close in unattended.	3Q94 spring-loaded valves installed Complete
There exists the possibility of small spill of contaminated water at the unused piping to the old ballast water tank. The piping was not abandoned in place using purge and drilling mud pack. (S-113)	Consider mothballing using techniques used for another unused abandoned pipelines.	Mud fill lines as part of the # 6/7 dock line tie in project 3Q94 Complete
There is a possibility of over temperature at the carbon beds on the DVRU as the procedures for a new charge do not have a conditioning step. (S-114)	Update procedures to ensure this step when carbon is changed.	4Q95 procedures do address this issue Complete
There is a possibility of an oil release into the emergency high level alarm. (S-115)	Consider the risks and benefits of installing a high level alarm on the high point sump.	High level alarm has been in place since 1993 from OSMP, it alarms in TDC. Additionally, sump is checked daily and vacuumed out. Complete

320 OFFSITE CONSEQUENCES ANALYSIS

321 INTRODUCTION

This Offsite Consequence Analysis (OCA) is intended to supplement the Hazard Analysis for identifying the impact area from the Reasonable Worst Case Discharge (RWCD) at the facility. The Hazard analysis, which is documented separately, focused on the identification of possible hazards that may result in an oil spill from the facility. Whereas, the goal of the OCA is to identify from a given spill scenario the credible impact area and the potentially impacted sensitive environmental sites over a 72 hour period.

The Offsite Consequence Analysis involved a progressive study of the spill site involving evaluation of the sensitivity of spill trajectories to pessimistic seasonal weather and environmental conditions, 72 hour spill trajectory for the identified pessimistic conditions, and identification of the area at risk from a spill and the potential impacted sensitive sites. This analysis was performed and documented by BlueWater & Associates, Novato, California using the "OILMAP" spill modeling software by ASA.

The results of the trajectory analyses are shown on color maps delineating time contours for the extent and impact of oil discharged from the terminal location. The trajectory plots display the differences with seasonal conditions and types of products.

The impact areas have been correlated to the sites identified by the ACP (12/97 ed.) The planned protection and recovery strategies would follow the recommendations contained in the ACP. This information includes a description of the area, shoreline characteristics, identification of sensitive marine resources, and strategy for deployment of resources

322 SPILL TRAJECTORY ANALYSIS APPROACH

AND SPILL MODEL BACKGROUND

322.1 ANALYSIS APPROACH

The offsite consequence analysis involved a progressive study for each site involving the following tasks:

- a. Sensitivity analysis of spill trajectories to seasonal weather and environmental conditions
- b. 72 hour spill trajectory for the identified pessimistic conditions
- c. Identification of the area at risk from a spill and the potential impacted sensitive sites.

The area at risk from a release at site was evaluated using a trajectory and fates modeling analysis for potential RWCD spill volumes, which may result from oil transfer operations. A sensitivity analysis was performed on these results to evaluate possible seasonal environmental , and weather impacts. This was performed using stochastic evaluation

technique for trajectories over each seasonal period. The identified pessimistic conditions were used to develop trajectory plots depicting the projected areas of impact over a 72-hour period. These trajectories are based on specific type of products and have incorporated weathering and fates considerations for the oil.

The areas at risk of impact from the analysis have been compared to the sites identified in the Area Contingency Plan (12/97 edition). California State representatives, USCG representatives, local city and county representatives, environmental groups, and industry representatives develop the ACP through a joint effort. The sites considered through the ACP process include:

- ☐ water intake
- ☐ lakes and streams
- ☐ fish and wildlife
- ☐ recreational areas
- ☐ endangered flora and fauna
- ☐ wetlands or other environmentally sensitive areas
- ☐ other areas of economic importance including sensitive terrestrial environments, aquatic environments, and unique habitats

322.2 OIL SPILL MODEL

The analyses were completed using oil spill modeling software OILMAP for Windows V2.4 from Applied Science Associates (ASA). Several modeling modes within OILMAP were applied to the analysis. These modes were configured to address specific types of spill impact including assessment of different response scenarios on the spill fate, spill trajectory and weathering prediction, and statistical probabilities of shoreline impact of the spilled oil.

The oil spill trajectory analysis for support of the Offsite Consequence Analysis involved primarily the **Trajectory, Fates, and Stochastic modes** which are summarized below:

TRAJECTORY AND FATES MODE

The trajectory and fates mode of operation predicts both the movement and weathering of surface oil. The fate processes simulated are spreading, evaporation, entrainment, emulsification and shoreline stranding.

Either instantaneous or continuous spills with a constant oil release rate can be simulated. Each spilllet is transported and weathered independently. The oil composition, selected by the user from a library of oil types, is characterized by its boiling point curve. This characterization allows the model to accurately predict the weathering of a wide variety of crude and refined oil products.

STOCHASTIC MODE

In the stochastic mode, a user-specified number of spill simulations are executed varying only the environmental conditions at the time of the spill. The stochastic model includes all the weathering processes in the trajectory and fate model.

The spill release occurs at random times over a period of time (by month to over an entire year). Historical wind records from regional meteorological stations can be used, or the model can generate wind time series from zero- or first-order statistical wind distributions.

The multiple trajectories predicted by the stochastic model are summarized as probability contours showing the probability of land and water areas being impacted by oil spilled at the specified release site. The probability contours form an envelope showing the direction(s) oil will move from the site and where it will impact land. Simulation results enable the user to assess potential extent of the area at risk for that seasonal period.

323 APPLICATION OF OILMAP MODEL TO SPILL SCENARIOS

323.1 OIL SPILL SCENARIO

The Reasonable Worst Case Discharge (RWCD) scenario identified by the Oil Spill Contingency Plan was used to evaluate the potential impact on the shoreline. The parameters of the spill are summarized below:

Table 3-1 - Oil Spill Modeling Scenario Information

Product:	Crude Oil
Quantity	(b) (7)(F)
Source Location:	36 " pipeline from dock to refinery
Seasonal Considerations:	Scenario in both summer and winter

In each scenario, the spill was considered to be instantaneous discharge at the identified location. The model calculation time step was 10 minutes, with a dispersion factor of $1.5 \text{ m}^2 / \text{sec}$. The simulations were run until the oil was fully dissipated from either evaporation, dissolution, or grounded on-shore over a period of 72 hours (3 days.)

323.2 ENVIRONMENTAL DATA

HYDRODYNAMIC

Tidal current and river induced flows, providing input to OILMAP for San Pablo Bay, were derived from a two dimensional, depth averaged, finite element hydrodynamic model of San Francisco Bay (King, 1990; Shrestha et al., 1993). The model solves the vertically averaged

equations of motion to predict the currents and water surface elevations. Friction losses are approximated using either a Chezy or Manning formulation.

The bay was represented by a finite element mesh consisting of two-dimensional (e.g., rectangular, triangular) and one-dimensional elements. The grid covers the entire bay from the entrance at Golden Gate Bridge and both the south and northern branches of the bay. The model was forced by tidal elevation at the open boundary at the Golden Gate Bridge and river and other freshwater flows in the interior.

WIND

Wind data used in the model simulation was based on a regional statistical wind summary. Wind speed and direction time series for the Summer (July - August) and Winter (December - February) were created from summary data taken from the International Station Meteorological Climate Summary (NCDC, 1992) for the nearest recording site.

This wind data was compiled into monthly speed and direction probability tables. The tables are monthly statistical summaries of the probability of wind coming from a particular direction and within a range of speeds. The monthly data records generated are essentially a synthetic time series based on wind probabilities for the selected period.

324 RESULTS

The Sensitivity Analysis and Trajectory results are summarized on the following maps:

Figure 300-1A through 300-1H – 72 hour Trajectory Map

Figure 300-2 - Spill Time Contour Map - Summer Conditions

Figure 300-3 - Spill Time Contour Map - Winter Conditions

Figure 300-4 - Weathering and Fates Graph

324.1 SENSITIVITY ANALYSIS RESULTS

Seasonal variations have been evaluated through the stochastic model. Historical winds for the period were categorized into summer and winter seasons. Wind velocity and direction vectors representative for the seasons were evaluated creating a range of probable spill trajectories.

Generally, the regional weather has two seasonal conditions, summer and winter. In the summer, winds are dominated by the prevailing west wind and thermal induction from the valley. In the early morning and evening, winds can be light and variable. In the winter or fall, the winds are generally light and variable, with occasional stronger winds representative of passing winter storm systems. Generally, a strong wind across the tidal flow tends to act as a driving function forcing the spill out of the main tidal flow. This can result in earlier grounding on the shoreline and may result in less travel and shoreline area impact.

The Spill Time Contour maps represent a summary of 100 iterations of spill trajectories from various states of tidal currents and seasonal environmental factors. These results are depicted on color maps delineating time contours in ¼ day (6 hour) increments. A legend to the color scale is provided on each map. Shoreline impacts are identified by red markings or by the overrun of the time contour across the shoreline. Either name or colored shoreline identifies key geographic and sensitive environmental site references. A legend of the color key is also provided on each map.

The RWCD spill was tested for both summer and winter wind influences on the spill trajectory. The relative impact is illustrated in Figures 300-2 and 300-3.

The greatest shoreline impact was determined to be during the winter with the increase impact to the northern reaches of Honker, Suisun and Grizzley Bays. This is the basis of the 72-hour trajectory.

324.2 SPILL TRAJECTORY RESULTS

The RWCD scenario was modeled in the trajectory and fates mode using the selected pessimistic seasonal data. The modeling time period was up to 72 hours (three days.)

The model incorporates weathering effects on the oil, loss by evaporation, and mixing with the water column. Shoreline characteristics are included in the model and provide consideration for credible shoreline grounding.

The trajectory output is divided into eight maps with each depicting sequential time frames up to the 72-hour end point. Information has been extracted from this output to provide a sequential listing of the impacted sites. Table 260-1 in Section 260 of this plan lists these sites with their relative time frames and order of impact.

A summary of the relative rate of loss to the environment from the spill is provided in the Figure 300-4 - Weathering & Fates Graph.

FIGURE 300-1A – SPILL TRAJECTORY HOUR 4

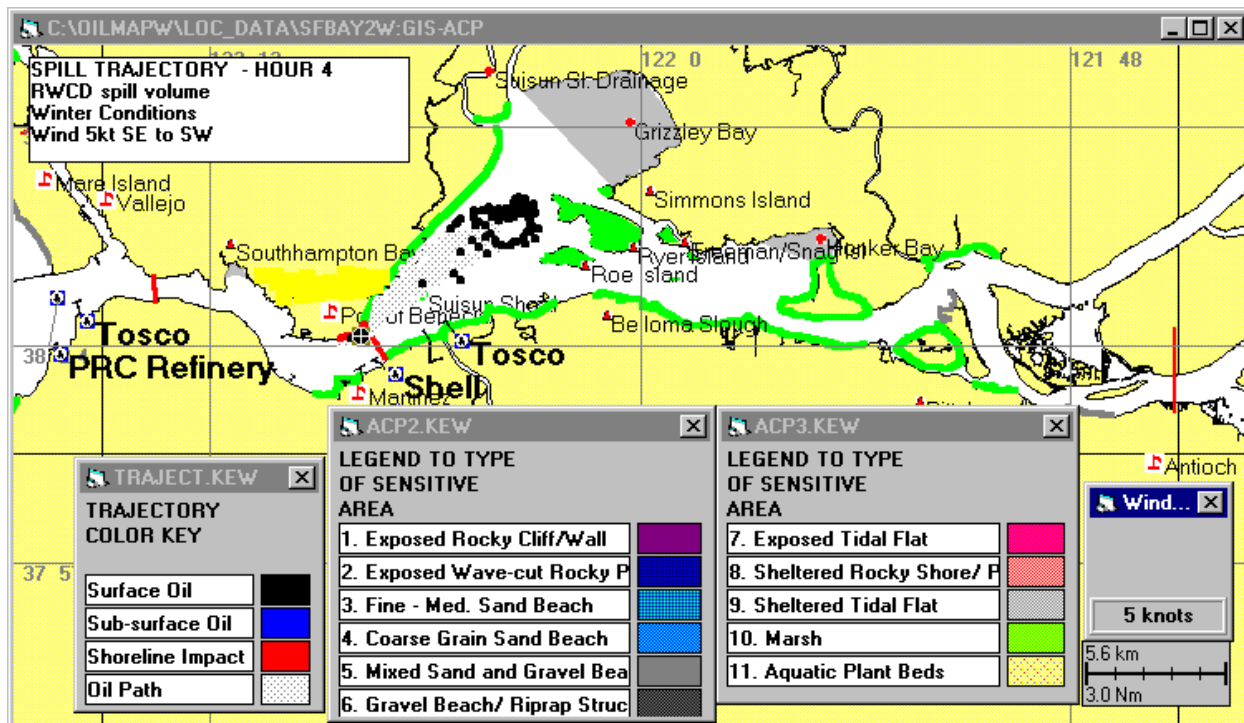


FIGURE 300-1B – SPILL TRAJECTORY HOUR 6

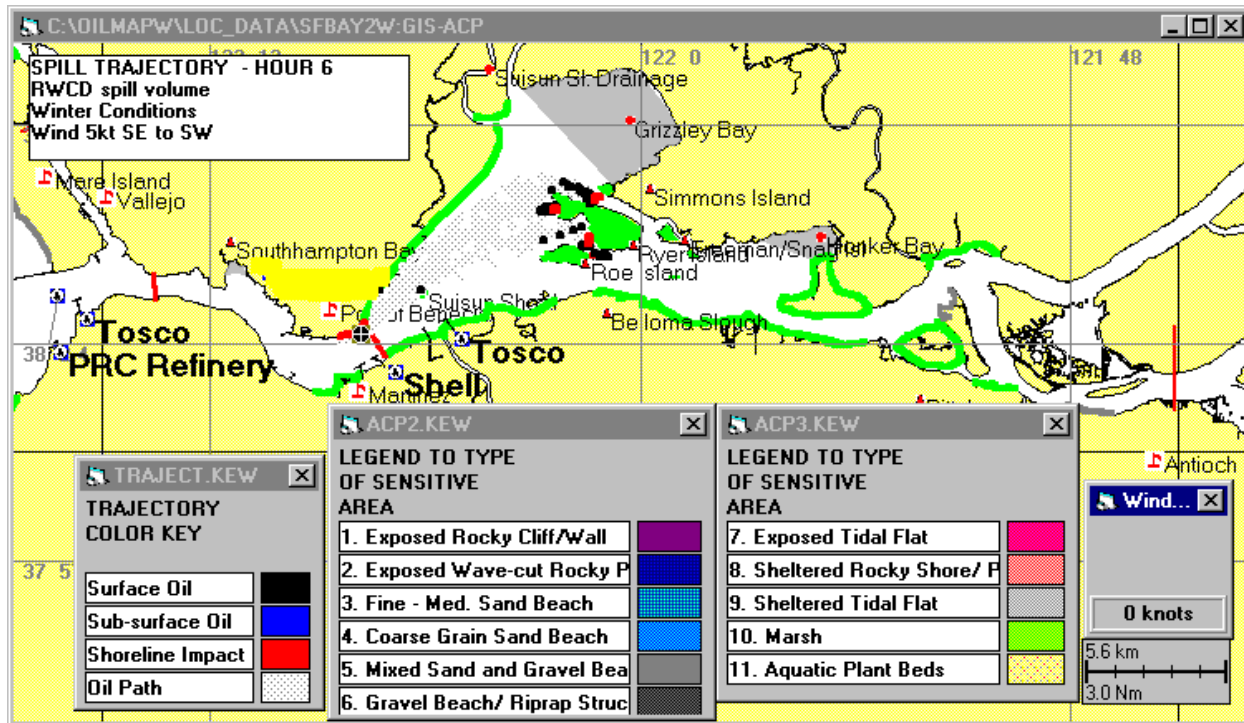


FIGURE 300-1C – SPILL TRAJECTORY HOUR 12

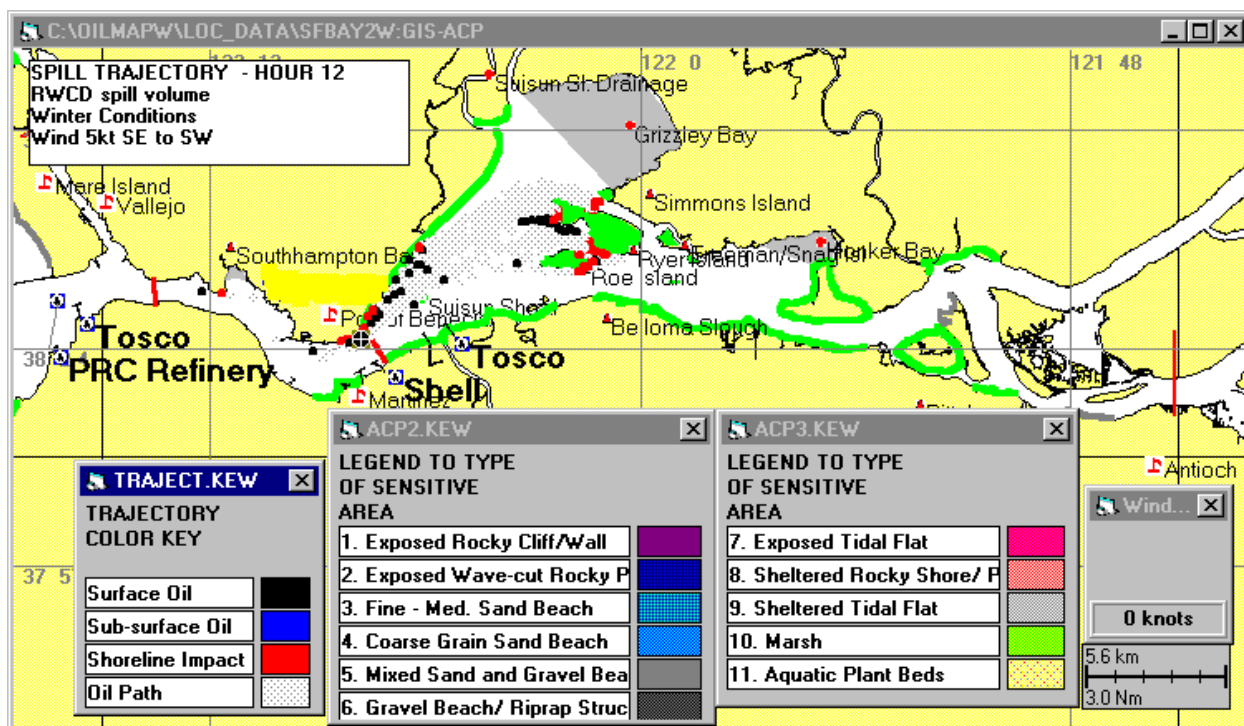


FIGURE 300-1D – SPILL TRAJECTORY HOUR 18

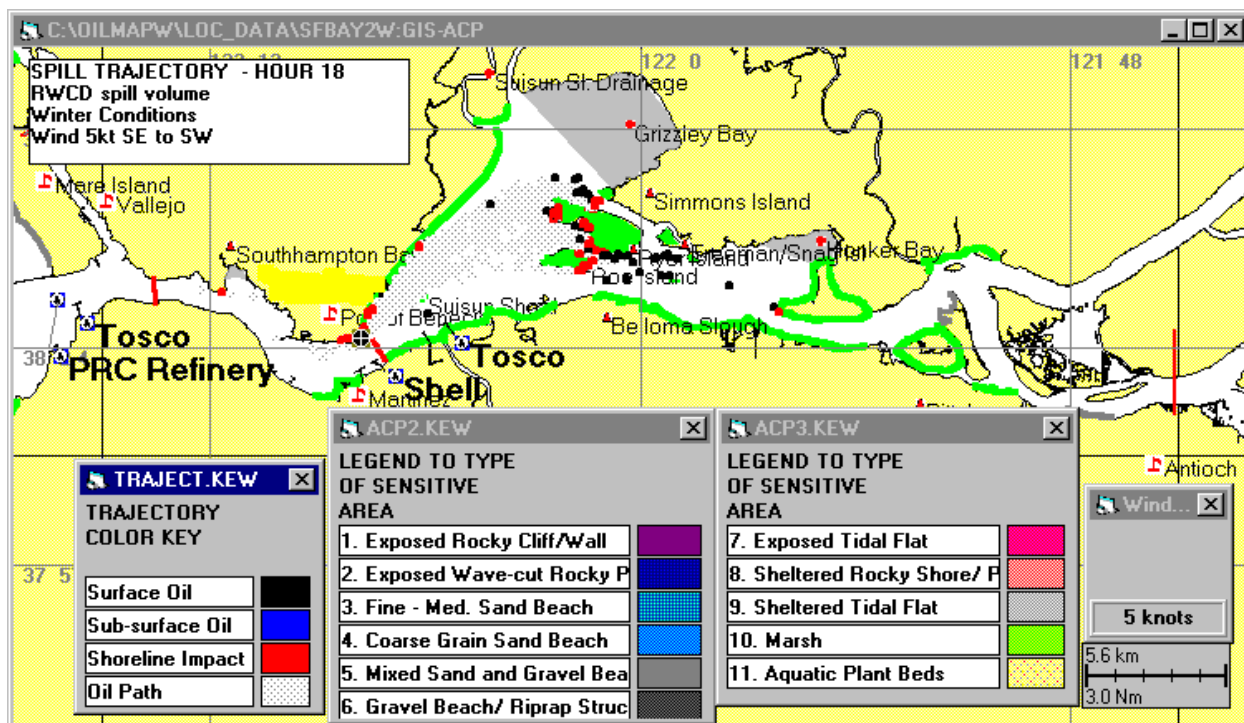


FIGURE 300-1E – SPILL TRAJECTORY HOUR 24

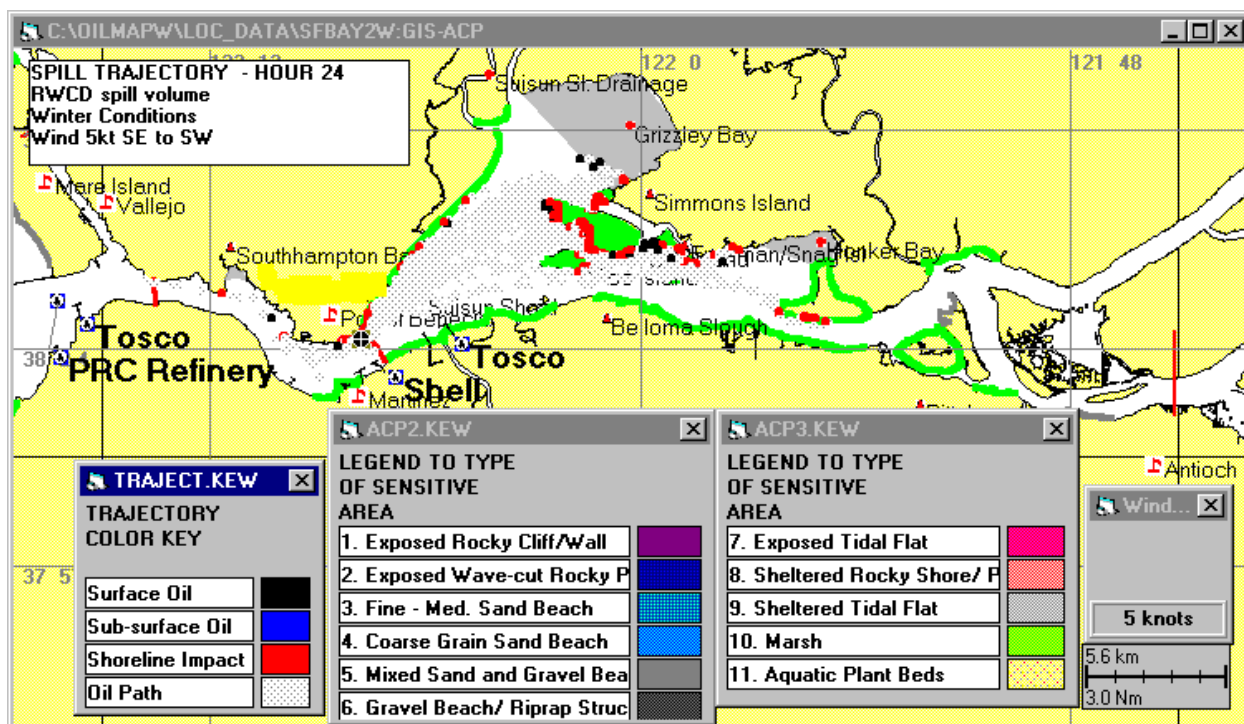


FIGURE 300-1F – SPILL TRAJECTORY HOUR 36

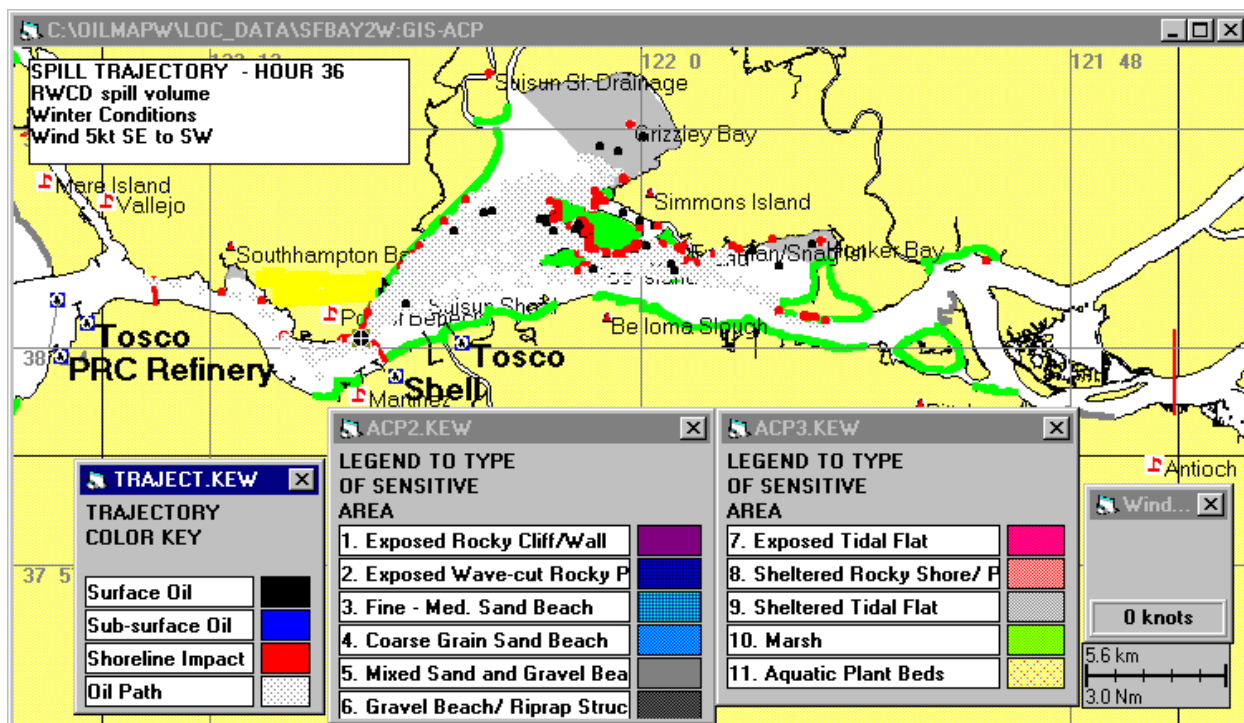


FIGURE 300-1G – SPILL TRAJECTORY HOUR 48

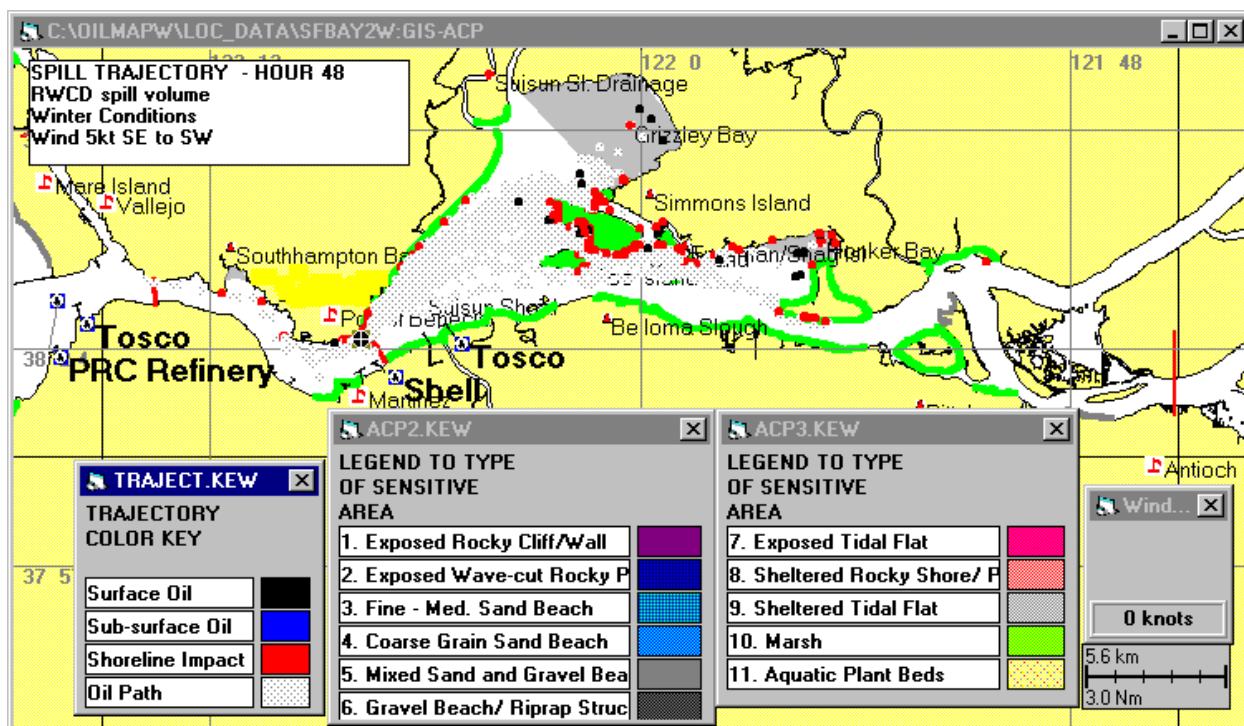


FIGURE 300-1H– SPILL TRAJECTORY HOUR 72

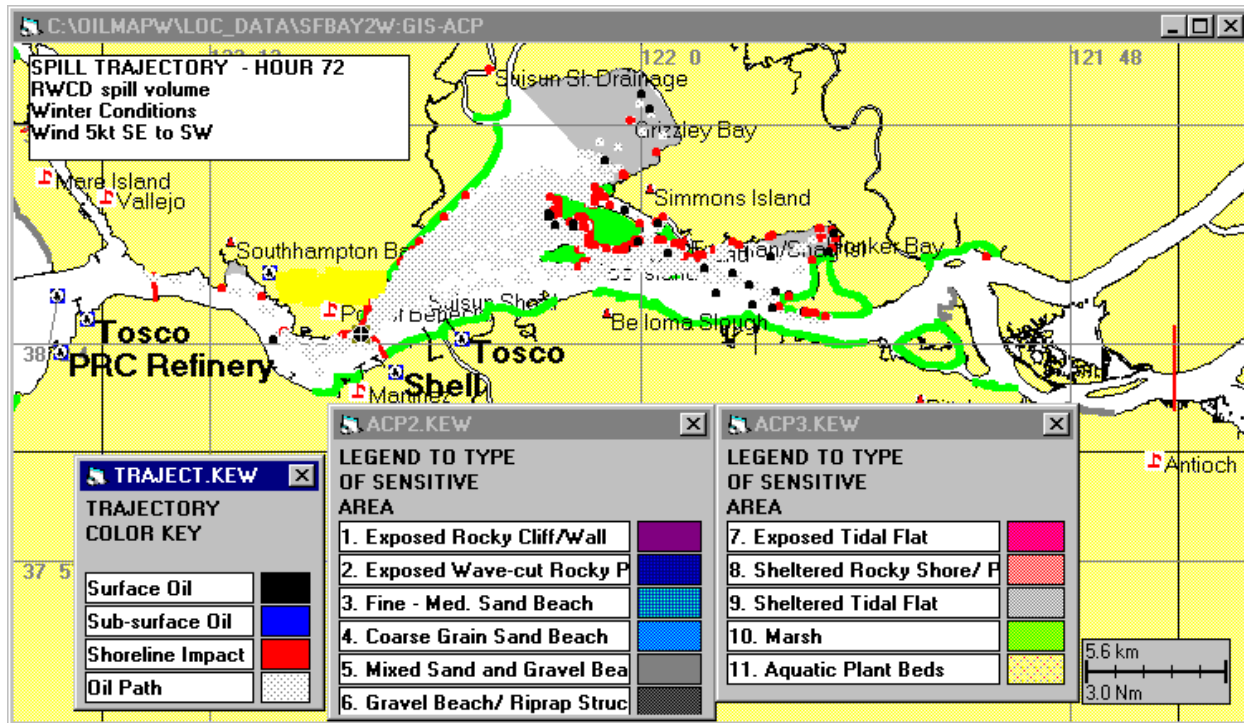


FIGURE 300-2—SPILL TIME CONTOUR MAP - SUMMER

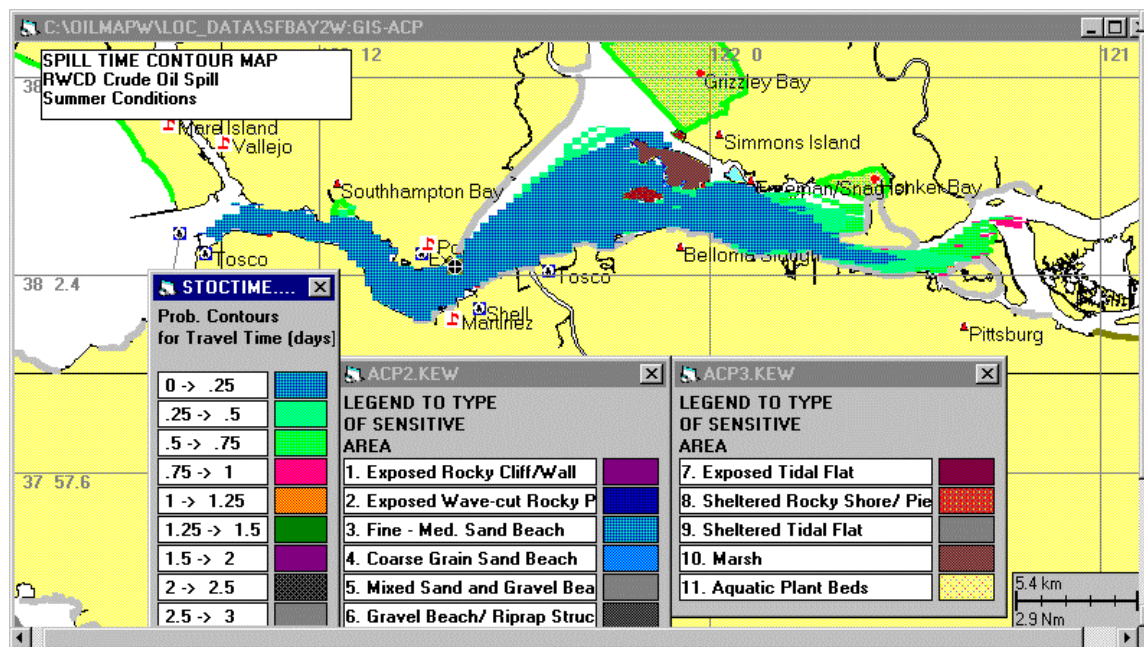


FIGURE 300-3—SPILL TIME CONTOUR MAP - WINTER

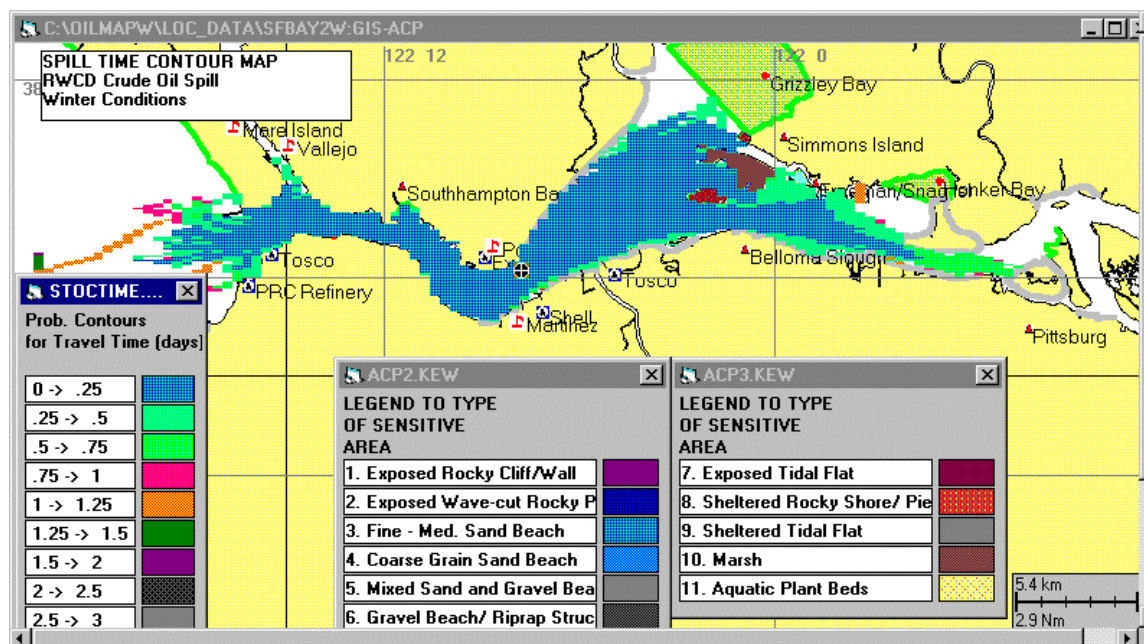
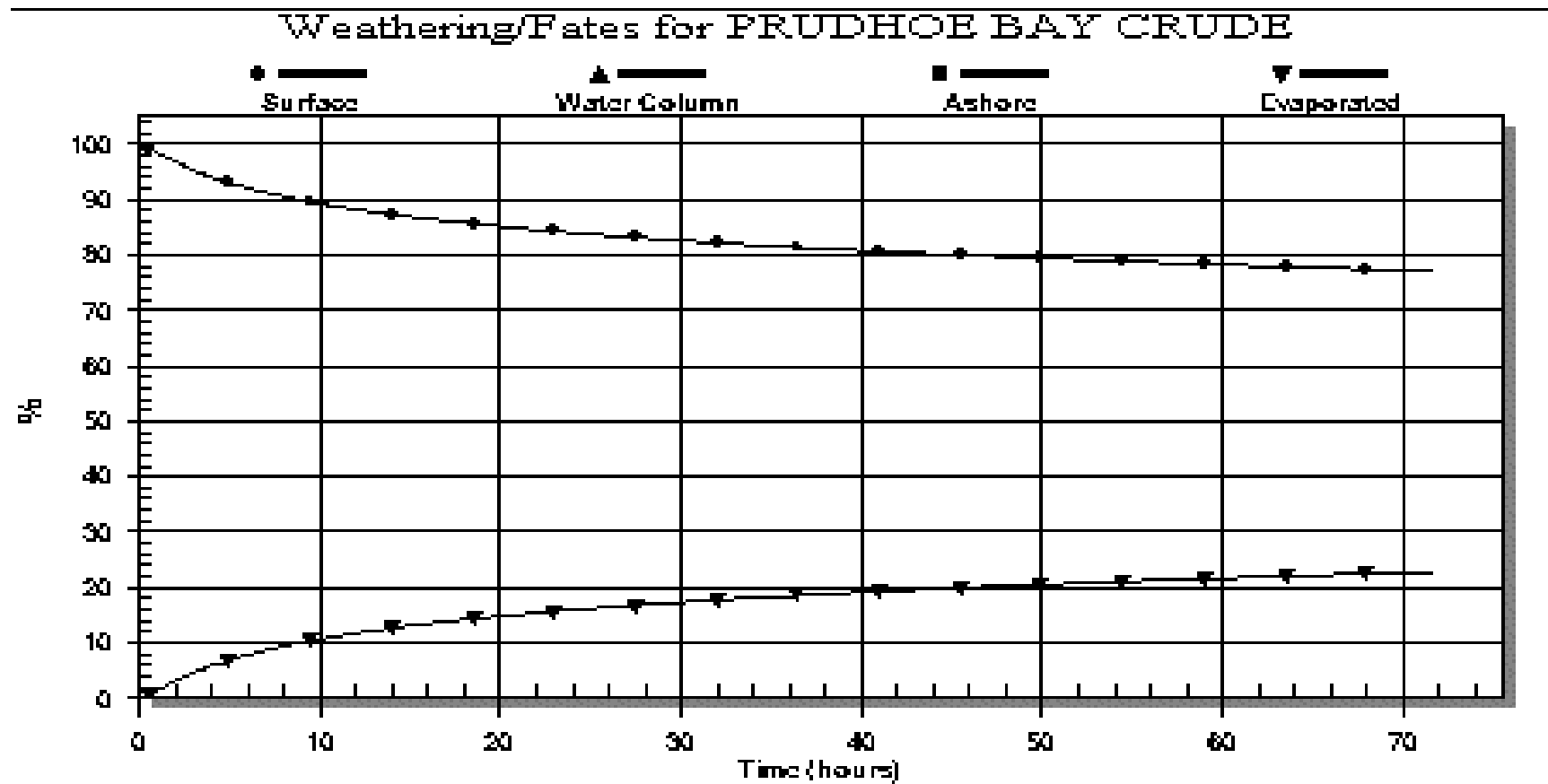


FIGURE 300-4 – WEATHERING AND FATES GRAPH



325 FATE AND PERSISTENCE

There are no strict rules regarding the fate and persistence of petroleum hydrocarbons in the environment. The fate and persistence of materials potentially released from Valero facilities will vary significantly, depending on the specific material and factors including season and weather. However, the following guidelines can be used for approximation of potential fate and effects:

NON-PERSISTENT MATERIALS

Materials including gasoline and MTBE will generally evaporate very rapidly, and not present significant environmental threats in terms of persistence.

GROUP II MATERIALS

Group II materials will also be subject to significant volumetric reduction and usually total loss due to evaporation, mechanical dispersion and other processes. In cases where fresh Group II materials soak into wetland substrate (especially peat) or are incorporated in muddy sediments in protected areas, extended persistence and subsequent impacts can be expected.

GROUP III MATERIALS

Group III materials will also exhibit significant evaporative loss and typically demonstrate moderate persistence. They may exhibit persistence if incorporated in peat or fine-grained sediment. These materials may leave a residue that can be tar-like and adhere to surfaces. Unless buried, these materials typically persist for a season.

GROUP IV MATERIALS

This group of petroleum hydrocarbons includes the more viscous crude oils and residuals. Evaporative loss is low and viscosity is high, a factor which typically reduces its tendency to penetrate into sediments. These materials tend to form stable emulsions and form asphalt-like pavement on shorelines. They are typically removed by mechanical dispersion although they may persist for significant periods of time in low energy environments. Group IV materials have specific gravities near that of water and may sink when weathered.

GROUP V MATERIALS

Group V materials are heavier than water and will sink. Group V materials sinking off the Benicia Dock will be subject to significant mechanical energy in the Carquinez straits and may be subject to considerable submarine movement. While degradation will be accelerated in the dispersed state, the ultimate fate of a sunken spill in this general area is uncertain, and certainly dependent on factors including the overall size of the spill. Note that the trajectories previously described do not necessarily reflect potential subsurface movement.

326 TOXIC EFFECTS

Toxic effects (and other mechanisms for ecological damage such as smothering, loss of insulation, etc.) are dependent on factors including the type of material spilled, its concentration, the nature of the environment and the organism impacted. A realistic evaluation of potential toxic effects requires investigations conducted at the time of the event.

For planning purposes, however, evaluation of relative effects which are probable satisfactory for setting protection and cleanup priorities can be based on the potential impact data presented in the ACP for various shoreline types, and sensitivity information provided in the ACP.

330 RESOURCES AT RISK

The trajectory analyses identifies the potential area impacted over a 72 hour period from the RWCD. A list of the environmentally sensitive areas at risk from the trajectory is provided in Section 260 of this plan. Each of the sites is identified with reference to its designation from the ACP. It is the intent of Valero to implement as directed by the Unified Command, the protection and recovery strategies for the area from the ACP.

Environmentally sensitive and economically/culturally sensitive areas are described (and mapped) in the ACP. It is recognized that the lists of features identified in the ACP will be subject to continual updating. Valero will monitor both documents and attempt to maintain the most current listings and maps. In the event of an actual spill event, Valero will work with the Unified Command to ensure that all known resources are considered in the development of action

400 SPILL SCENARIOS

400 SPILL SCENARIOS

Information contained in Section 400 presents a discussion of the spill planning volumes, hypothetical scenarios, and analysis of responses capabilities. Subsections include:

- 410 Discharge Planning volumes
- 420 Spill Scenarios
- 430 Calculation of Response Planning Volume
- 440 Response Capability Standards

410 DISCHARGE PLANNING VOLUMES

Discharge planning volumes were calculated to address the requirements of the EPA, USCG, DOT (RSPA) and OSPR for the portions of the complex regulated by each respective agency. In accordance with the requirements of OPA '90, the resultant discharge planning volumes for a complex are expressed as the larger of the amounts calculated for each component of the facility.

Non-persistent oils and persistent oils were considered in each of the analyses conducted. Characterization of the major petroleum products handled at the Benicia Refinery by oil group is summarized in Table 400-1

The discharge volumes provided below are used to determine the planning volumes for the facility. The planning volumes represent the amount of response equipment which the owner/operator must ensure (by contract or other means) is available to respond to a spill at the facility, within a specified time frame. The information provided in Table 400-3 describes the planning volumes and the contracted resources to provide corresponding response to meet the regulatory requirements.

Marine Transfer-Related (MTR) transfer facilities that contain both fixed aboveground onshore structures used for bulk oil storage jointly regulated by EPA and USCG is termed "complexes". As such, all "complexes must compare average most probable, maximum most probable, and worst case discharges derived by EPA and USCG calculations and plan for whichever volume is greater. A worst case discharge from the Benicia Refinery would result from a catastrophic event causing rupture of facility transport pipelines or tanks. Average most probable, maximum most probable, and worst case discharge volumes are summarized below.

Table 400-1. Product Characterization by Oil Groups.

<u>Material</u>	<u>Specific Gravity</u>	<u>BP Range</u>	<u>Oil Group</u>
Crude Oil	0.7-0.85	550C/ 1,022F	II or III
Unleaded Regular	0.74	21-227C; 40-440F	I
Unleaded Regular (Oxy)	0.74	21-227C; 40-440F	I
Plus	0.74	21-227C; 40-440F	I
Plus (Oxy)	0.74	21-227C; 40-440F	I
Unleaded Premium	0.74	21-227C; 40-440F	I
Unleaded Premium (Oxy)	0.74	21-227C; 40-440F	I
Off Road Diesel 2	0.86	160-350C; 320-650F	I
Jet Fuel (JP-5)	0.788-0.845	170-290C; 338-554F	I
Virgin Gas Oil (PGO)	0.9-0.95	345-565C; 650-1,050F	III or IV
Naphtha (Reformate)	0.7-0.8	38-220C; 100-430F	I
Petroleum Coke	1.5-2.2	NA	V
CBO	>1	NA	V
Bunker			

Classification Note:

- Group I (Non-persistent) 50% distill @ 340C (645F) and 95% distill @ 370C (700F)
- Group II specific gravity <0.85
- Group III specific gravity 0.85 to <0.95
- Group IV specific gravity 0.95-1.0
- Group V specific gravity >1.0

411 WORST-CASE DISCHARGE

(b) (7)(F), the overall Worst Case Discharge (WCD) is **(b) (7)(F)** of Group III Oil based on 100% of the capacity of the single largest aboveground storage tank within secondary containment.

EPA

Under EPA requirements, the worst case discharge is defined as follows:

- 1) The capacity of all aboveground storage tanks at the facility without adequate secondary containment, plus
- 2) 100% of the capacity of the largest single above ground storage tank within a secondary containment area or 100% of the combined capacity of a group of above ground storage tanks permanently manifolded together, whichever is greater if the facility is adjacent (within 1/4 mile) to a navigable water; or
- 3) 100% of the capacity of the largest single above ground storage tank within a secondary containment area or 100% of the combined capacity of a group of above ground storage tanks permanently manifolded together, whichever is greater if the facility is not adjacent to a navigable water.

The facility is a multi tank facility. The tanks are not permanently manifolded together. Pursuant to the requirements set forth by the EPA, the Worst Case Discharge Planning Volume

(b) (7)(F)

and none are permanently manifolded together. These tanks store crude oil, classified as Group III oil.

The EPA Worst Case Discharge for Group III oils is therefore is **(b) (7)(F)**

USCG

Under USCG requirements, the worst case discharge is defined as the discharge from all piping carrying oil between the marine transfer manifold and the non-transportation-related portion of the facility plus, where applicable, the loss of the entire capacity of all in-line and breakout storage tanks needed for the continuous operation of the pipeline(s) used for the purposes of handling or transporting oil, in bulk, to or from a vessel regardless of the presence of secondary containment.

The pipeline volumes and rates are provided in Table 400-1a in this Section of this plan.

The volume of USCG WCD planning volume is based on failure of the 36 in. Crude Oil Line at the loading arm manifolds during maximum design pumping rates of 60,000 bph. The USCG WCD spill volume would consist of rupture of the line with release of residual line volume up to the check valves at the shore manifold and loss due to

discovery and shutdown time at the max flow rate (Refer to Table 400-1a). Since the refinery dock can accommodate only one vessel at a time, the WCD scenario is either a crude ship unloading or a product vessel loading. Since the loading rates for product vessels are only ~10% of the crude off-loading rate, it was determined that the credible WCD would not involve other lines or all lines.

(b) (7)(F)

DOT Pipeline

Under DOT's Research and Special Programs Administration (RSPA) regulations (49 CFR 194), the WCD for the Valero's pipeline system, which consists of only one line section, is based on a catastrophic failure of the 36 in. Crude pipeline between the shore and the check valves. The volume of Pipeline WCD planning volume is based on loss at max pumping rate of 60,000 bph due to discovery and shutdown time and release of residual line volume up to the check valves. (Refer to Table 400-1a).

The DOT Pipeline WCD was determined to be (b) (7)(F)

The DOT Breakout Tank WCD was determined to be (b) (7)(F)

Refinery, (b) (7)(F)

Benicia Asphalt Plant, (b) (7)(F)

The DOT Historical WCD was determined to (b) (7)(F)

Table 400-1a Benicia Refinery DOT (RSPA) Pipeline Specifications

Pipeline Name	Size	Type of Product	(b) (7)(F)	Max. Allowable Flow (bph)	Calculated Static Capacity (bbl)	Discovery Time	Time to S/D	(b) (7)(F)
	OD-in. (Length-ft.)							
20" Crude Oil Line	20 (8,540 ft)	Crude, PGO		10,000	2,905	15 min.	2 min	
	(3,530 ft)			10,000	1,220	15 min.	2 min	
	(5,897 ft)			10,000	2,020	15 min.	2 min	
				S/T	6,145	15 min	2 min	
#1 Dock Line	12.75 (4,800 ft)	Jet, Diesel		6,500	650	15 min.	2 min	
#2 Dock Line	12.75 (4,800 ft)	PGO, Diesel, Bunker		6,500	650	15 min.	2 min	
#4 Dock Line	12.75 (4,800 ft)	Gasoline		6,500	650	15 min.	2 min	
#5 Dock Line	12.75 (4,800 ft)	Gasoline		6,500	650	15 min.	2 min	
#6 Dock Line	12.75 (4,800 ft)	PGO, Diesel, Bunker		6,500	650	15 min.	2 min	
36" Crude Oil Line (Note 1)	36 (107 ft) Hand measured			60,000	127	5 min.	2 min	

Pipeline Name	Size OD-in. (Length-ft.)	Type of Product	(b) (7)(F)	Max. Allowable Flow (bph)	Calculated Static Capacity bbl)	Discovery Time	Time to S/D	(b) (7)(F)
24” Crude Oil Line	24 (8,766 ft)	Asphalt Plant		7,000	2,387	15 min.	2 min	
	24 (800 ft)	Asphalt Plant		7,000	398	15 min.	2 min	
				S/T	2785	15 min	2 min	
8” Crude Oil Line	8.75 (8,766 ft)	Asphalt Plant		2,000	542	15 min.	2 min	
NOT UNDER DOT JURISDICTION								
6" Transbay Line	6.625 (8,540 ft)	Gasoline, Diesel		1,500	272	15 min.	2 min	

Note 1 : Worst Case Discharge is based on rupture of 36 in. Crude Line, however rundown volume is limited by a series of check valves designed to minimize back flow volume from the total line (4800 ft.) [Volume Loss= Pump Rate (BPH) X Time Elapsed Until Shutdown (Min) + Static Line Volume (BBls)]

Note 2: Max. Time to **detect** spill and to shutdown flow is under consideration of adverse weather conditions. This is the sum of Discovery Time + Time to S/D listed in table.

Figure 400-1 Benicia Refinery DOT (RSPA) Pipeline Map

(b) (7)(F)



412 Reasonable Worst-Case Discharge

OSPR

The Reasonable Worst Case (RWCD) discharge volume is defined by California Regulations (817.02(d)(1)) as the portion of the line fill capacity which could be lost during a spill, taking into account the availability and location of the emergency shut-off controls, plus the amount which may be reasonably expected to be released during emergency shutoff of the transfer if a hose ruptures. The calculations may take into account the effect of any safety devices and automatic controls.

Refer to the discussion in Section 411 – Worst Case Discharge and the Table 400-1a for the parameters associated with the line volumes and rates on the 36 in. Crude Oil Line. The Crude Line is used as the basis for determination of the RWCD.

The Reasonable Worst Case spill volume is (b) (7)(F) on the greatest transfer rate plus line volume

413 Maximum Most Probable (Medium) DischargeEPA

The medium planning volume is defined by EPA as 857 barrels or 10% of the capacity of the single largest aboveground storage tank, whichever is less. The largest storage tank volume as noted in the discussion with Worst Case Discharge (Section 411) is (b) (7)(F) classified as Group III oil.

Thus, the EPA medium planning volume is 857 bbls.

(b) (7)(F)

USCG

USCG defines this discharge as the lesser of 1,200 barrels or 10 percent of the volume of the worst case (USCG) discharge, which consists of the volume of the marine piping from the dock header to the first valve in secondary containment. **From Section 411, the USCG WCD is (b) (7)(F)**

The greater amount between EPA or USCG method is the value of the MMPD. The USCG value of 200 bbls. is less than the EPA value of 857 bbls.

Thus, the Maximum Most Probable Discharge (MMPD) is 857 bbls

414 Average Most Probable (Small) Discharge

EPA

The small planning volume is defined by EPA as less than or equal to 50 barrels, not to exceed the worst case discharge.

The EPA small planning volume is 50 bbls. (b) (7)(F) .)

USCG

The USCG average most probable discharge is the lesser of 50 barrels or 1 percent of the volume of the worst cast discharge (USCG).

Thus, the Average Most Probable Discharge is 50 barrels.

420 SPILL SCENARIOS

The following spill scenarios are intended to demonstrate the potential response capability available to respond to an oil spill from the facility covered by this Plan. It is not a guarantee of what will occur or the equipment/resource deployment sequencing that will be used in an actual spill event. Nothing in this Plan is intended to limit the discretion of persons in charge of an actual spill response to select any sequence, and to take whatever time they deem necessary to maximize the effectiveness of the response, consistent with safety considerations. This Plan represents a planning standard but is not and should not be regarded as a performance guarantee. Response operations in any spill event will be tailored to meet the actual circumstances of such event.

421 AVERAGE MOST PROBABLE DISCHARGE SCENARIO

Initial discovery of a spill or threatened release is likely to be made by or involve the Benicia Refinery Unit Technician responsible for the operating area involved. The technician may make discovery directly, or have the incident brought to his or her attention from outside sources such as ships' personnel, contractors, or the public. Consistent with overall response priorities, the technician will begin the notification process, usually immediately via radio communications, to the Shift Superintendent (QI), Refinery Shift Team Operations Supervisor, and Control Supervisor. This initial radio communication will also be an alert to the on-shift Process Team-Spill Response Team. From the time of discovery, the Unit Technician should be able to complete this initial communication within 5 to 10 minutes.

The Unit Technician will then commence implementing procedures to stop the leak or spill and/or contain the release, consistent with applicable safety and emergency response procedures. Where possible, shutdown will precede notification.

Following initial notification, the Operations Supervisor will mobilize the Process Team-Spill Response Team as appropriate based on the initial report. It is expected that this mobilization will typically require 5-10 minutes. Transportation time to the scene will depend on the location of the incident.

Following initial notification, the Shift Superintendent (the initial Qualified Individual) will initiate the notification procedures outlined in Section 210 and notification of Valero management personnel. Information for completing the notification information form will likely not be available at this early stage, but notifications will not be delayed. Responsibility for making the necessary phone calls will usually be delegated by the Shift Superintendent so that he or she may proceed to and begin management of the incident as Incident Commander.

As additional information becomes available on the scope and extent of the incident, either from the Unit Technician or the response team, the Shift Superintendent will determine what additional contract or other resources will be mobilized. For a spill of 50 barrels or less, these resources will likely include NRC ES, local shoreside clean-up capability, and segments of Benicia Refinery Spill Management Team.

Initial response for incidents occurring at the Refinery dock will involve deployment of the containment boom and systems at the dock. These systems are designed to meet California State Lands Commission, OSPR, and OPA '90 requirements. Timing requirements associated with these regulations vary, but range from 30 minutes to one hour for deployment of various lengths of boom.

During daylight hours, the Shift Superintendent would likely order a helicopter for surveillance and direction of the response. This resource would usually be available at the Refinery heliport in 30 to 60 minutes.

NRC ES resources ordered would involve fast response boats with skimmers. An arrival time for other locations is a function of the distance to the scene.

Within 1/2 to 1 hour, and based on tidal and current conditions at the time of the spill, the Shift Superintendent will make an initial determination of what, if any, sensitive resources may be at risk, and initiate protective measures based on overall resource availability and priorities.

The initial Process Team-Spill Response Team responders and supervisors will organize using the Incident Command System response organization as they arrive on-scene. A Safety Officer will be assigned from the response team, usually a person qualified to perform gas testing. In most cases, the Operations Supervisor will initially become the Operations Manager and the Shift Superintendent will become the initial Incident Commander.

Shoreline containment and cleanup contractors (e.g., PSC) are normally available within 1 to 2 hours. These contract resources include first responder-qualified personnel and equipment.

Additional Refinery or Marketing Terminal management and/or local SMT responder resources that are mobilized should normally arrive at the refinery within 1/2 to 2 hours. Notification of these individuals is expedited through a "group-call" paging system. Upon arrival (usually at the Refinery's Control House or Service Building conference rooms), all personnel are integrated into the ICS response organization in accordance with pre-assigned positions and responsibilities.

For a spill of approximately 50 barrels, mobilization is anticipated to include up to 5-10 NRC ES vessels, 25-100 shoreline cleanup contractor personnel, and staff a spill management team of between

10-20 persons. On-the-water cleanup activities would likely be completed in a week and shoreline cleanup activities would likely require an additional 1-4 weeks.

422 MAXIMUM MOST PROBABLE DISCHARGE SCENARIO

The initiating sequence of events for a spill of this size will likely be very similar to the scenario noted in Section 421. Given initial observations that this scenario is approximately an order of magnitude larger incident than the "small" spill discussed above, several additional or slightly different steps will be involved in the early stages of mobilization. It should be apparent to the initial Incident Commander that additional management, field and open water resources would be required. Initial mobilization calls will necessarily reflect this need for additional resources from NRC ES for open water skimming equipment. NRC ES's shallow water, fast response skimming equipment would most likely be mobilized. Anticipating a multi-day cleanup, it would be likely that NRC ES would alert its backup sources of vessel operators and contractors.

For this spill scenario, additional shoreline cleanup crews would likely be needed, and for a longer period of time. Notification and mobilization of these resources would involve contacting one or more additional contractors, either through NRC ES, or through one of the existing Valero service contracts. These resources would most likely be assigned responsibility for geographic sections of shoreline.

A larger management team for command and control, operations, planning, logistics, and finance would also be required. For a spill of this size it is anticipated that the SMT would be paged and mobilized, initially to the Refinery. The management Command Center may be moved to the Valero East Building, which is designated as an alternate Emergency Operations Center.

Command and Control for the resources deployed will be maintained through the use of the Incident Command System organization. The Co-op and contractor resources deployed will be under the direction of this management system. The Unified Command System within ICS will be employed to integrate all involved government agencies into the management of the incident.

423 WORST CASE DISCHARGE SCENARIO

The general response actions discussed in Sections 421 and 422 will likely be utilized in the early notification and mobilization for a Worst Case Discharge (WCD). For a spill of this magnitude, it will likely be apparent that additional resources will be required and initial notification and mobilization will reflect that difference. In addition to the resources mobilized for the two prior cases, it would be likely that early decisions would be made to mobilize the entire SMT and request mobilization of all of NRC ES skimmers. Arrival of this equipment will be consistent with the various regulations for tiered response and cascading of equipment resources.

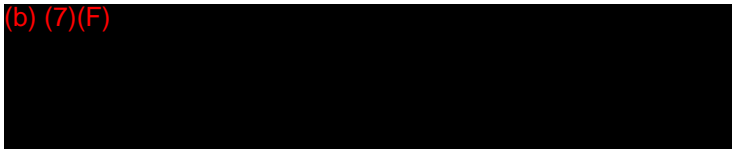
Shoreline impacts for this spill scenario will likely warrant mobilization of several additional shoreline cleanup contractors. Contractor resources will probably be required and mobilized from out of the area to rapidly mobilize appropriately trained and qualified personnel. It is further anticipated that on-site training program(s) will be set up through these contractors to train additional local employees as needed.

To meet the command and control needs for a spill of this scale, the Valero Spill Management Team (SMT) will be mobilized to augment and expand the management team established in the prior two cases.

430 CALCULATION OF RESPONSE PLANNING VOLUME

Response Planning Volumes have been calculated for both EPA and USCG according to the regulatory requirements.. Both planning volume calculations use the persistence and emulsification factors for Crude Oil, Group III Oil. The environment for the facility is considered to be inland and associated tier time frames were used in the calculation.:

(b) (7)(F)



Calculation forms for both EPA and USCG are located in this section.

431 EPA WORST CASE DISCHARGE PLANNING VOLUME CALCULATIONS**A.1.0 SECONDARY CONTAINMENT-MULTIPLE-TANK FACILITIES**

Are all above ground oil storage tanks or groups of aboveground oil storage tanks at the facility without adequate secondary containment?

Group 1 NO

Group 2 NO

Group 3 NO

Group 4 NO

Group 5 NO

A.2.1 If the answer is yes, the final worst case discharge planning volume equals the total aboveground oil storage capacity at the facility.

(1) FINAL WORST CASE VOLUME N/A GAL

(2) Do not proceed further.

A.2.2 If the answer is no, calculate the total aboveground oil storage capacity of tanks without adequate secondary containment. If all aboveground oil storage tanks or groups of aboveground oil storage tanks at the facility have adequate secondary containment,

ENTER "0" (zero) 0 GAL

A.2.3 Calculate the capacity of the largest single aboveground oil storage tank within an adequate secondary containment area or the combined capacity of a group of aboveground oil storage tanks permanently manifolded together, whichever is greater, PLUS THE VOLUME FROM QUESTION A.2.

FINAL WORST CASE VOLUME

Group 1 N/A

Group 2 N/A

(b) (7)(F)

Group 4 N/A

Group 5 N/A

Benicia Refinery
Response Planning Volume Calculations

Location Data																												
Location Type	Nearshore/Inland																											
Port Type	High Volume Port																											
WCD Product Type	Crude Oil																											
Product Group	3																											
Capacity of the Largest Single Tank (Bbls)	(b) (7)(F)																											
Discharge Volumes/Calculations																												
Small Discharge (Bbls)	50																											
Medium Discharge (Bbls)	857																											
Worst Case Discharge - Based on EPA criteria (Bbls)	(b) (7)(F)																											
EPA WCD Calculation: 100% * Capacity of the Largest Single Tank																												
Selected Calculation Factors (Based on EPA Tables)																												
Removal Capacity Planning Volume - Percent Natural Dissipation	30%																											
Removal Capacity Planning Volume - Percent Recovered Floating Oil	50%																											
Removal Capacity Planning Volume - Percent Oil Onshore	50%																											
Emulsification Factor	2.0																											
Tier 1 - On Water Oil Recovery Resource Mobilization Factor	15%																											
Tier 2 - On Water Oil Recovery Resource Mobilization Factor	25%																											
Tier 3 - On Water Oil Recovery Resource Mobilization Factor	40%																											
Response Planning Volume Calculation																												
On-Water Recovery Volume (Bbls)	321,500																											
On-Shore Recovery Volume (Bbls)	321,500																											
Total Recovery Volume (Bbls)	643,000																											
	<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th style="width: 33%;">Tier 1</th> <th style="width: 33%;">Tier 2</th> <th style="width: 33%;">Tier 3</th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;">On-Water Recovery Cpcty (Bbls/day)</td> <td style="padding: 5px;">96,450</td> <td style="padding: 5px;">160,750</td> <td style="padding: 5px;">257,200</td> </tr> <tr> <td style="padding: 5px;">Shallow Water Resp Cpblty (Bbls/day)</td> <td style="padding: 5px;">19,290</td> <td style="padding: 5px;">32,150</td> <td style="padding: 5px;">51,440</td> </tr> <tr> <td style="padding: 5px;">Storage Capacity (Bbls/day)</td> <td style="padding: 5px;">192,900</td> <td style="padding: 5px;">321,500</td> <td style="padding: 5px;">514,400</td> </tr> <tr> <td style="padding: 5px;">On-Water Response Caps (Bbls/day)</td> <td style="padding: 5px;">12,500</td> <td style="padding: 5px;">25,000</td> <td style="padding: 5px;">50,000</td> </tr> <tr> <td style="padding: 5px;">Additional Response Req'd (Bbls/day)</td> <td colspan="3" style="padding: 5px;">(b) (7)(F)</td> </tr> <tr> <td style="padding: 5px;">Response Time (hrs)</td> <td style="padding: 5px;">6</td> <td style="padding: 5px;">30</td> <td style="padding: 5px;">54</td> </tr> </tbody> </table>	Tier 1	Tier 2	Tier 3	On-Water Recovery Cpcty (Bbls/day)	96,450	160,750	257,200	Shallow Water Resp Cpblty (Bbls/day)	19,290	32,150	51,440	Storage Capacity (Bbls/day)	192,900	321,500	514,400	On-Water Response Caps (Bbls/day)	12,500	25,000	50,000	Additional Response Req'd (Bbls/day)	(b) (7)(F)			Response Time (hrs)	6	30	54
Tier 1	Tier 2	Tier 3																										
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Additional Response Req'd (Bbls/day)	(b) (7)(F)																											
Response Time (hrs)	6	30	54																									

432 **USCG WCD & CA OSPR RWCD Discharge Planning Volume Calculations**
(Ref. 33 CFR 154 Appendix C & CCR Title 14 §817.02(d))

Step (G) On-Water Oil Recovery Resource Mobilization Factor (Table 4 of this appendix)

Tier 1	Tier 2	Tier 3
_____0.15_____	_____0.25_____	_____0.40_____
(G1)	(G2)	(G3)

Part II On-Water Oil Recovery Capacity (barrels/day)

Tier 1	Tier 2	Tier 3
(b) (7)(F)		

Step (E1) X Step (F) X Step (G1) Step (E1) X Step (F) X Step (G2) Step (E1) X Step (F) X Step (G3)

Part III Shoreline Cleanup Volume (barrels)

(b) (7)(F)

Step (E2) X Step (F)

Part IV On-Water Response Capacity By Operating Area (Table 5 of this appendix)

(Amount needed to be contracted for in barrels/day)

Tier 1	Tier 2	Tier 3
_____12,500_____	_____25,000_____	_____50,000_____
(J1)	(J2)	(J3)

Part V On-Water Amount Needed to be Identified, but not Contracted for in Advance (barrels/day)

Tier 1	Tier 2	Tier 3
_____0_____	_____0_____	_____0_____
Part II Tier 1 - Step (J1)	Part II Tier 2 - Step (J2)	Part II Tier 3 - Step (J3)

NOTE: To convert from barrels/day to gallons/day, multiply the quantities by 42 .

440 RESPONSE CAPABILITY STANDARDS

The Table 400-2 presented in this section identifies the location and sources of equipment under contract to meet the required "planning" volumes. The table demonstrates that the available resources exceed the planning volume requirements.

441 RESIDENT EQUIPMENT

For this contingency plan, provisions for "resident" equipment for purposes of meeting the CA OSPR regulations will be met through this facility's internal response resources and participation in NRC ES. Benicia Refinery response equipment is considered "non-cascadable".

442 SHORELINE PROTECTION STANDARDS

For purposes of CA OSPR Shoreline Protection Planning Standards, NRC ES is under contract as OSRO to provide required resources to meet the requirements of Benicia Refinery. Refer to the NRC ES OSRO application for detailed information.

Table 400-2. "On the Water" Planning Volumes and Contracted Equipment Sources.

Spill Time	Benicia Facility Specific Planning Volumes -----	Response Equipment "Under Contract" (Company, Location, Derated Capacity)	Cumulative Derated Capacity	Storage Capacity (Company, Location, Capacity)	Cumulative Capacity (2x recovery)
+30 min.	SLC: Deploy 600' boom	Benicia Refinery, Dock, N/A			
+ 1 hr.	OPA '90: Deploy 2000' boom	Benicia Refinery, Dock, N/A			
+2 hr.	(2500 B/D OSPR)	NRCES, Martinez, Portable Barge Set with Action 60 Drum skimmer, 2500 ft 18in. boom – EDRC = 4100 B/D	4,100 B/D	Valero Benicia Refinery, slop and crude tank emergency capacity, = 25,000 B NRCES, PBS, capacity,= 238 B	25,238 B
+6 hr.	1,069 B/D: Benicia Planning Vol.	NRCES, Alameda, Trailer Marco Self Propelled Belt Skimmer # 6030 EDRC = 3679 B/D	7,779 B/D	NRCES (Foss Contract) Richmond Tank Barge= 5,000 B	30,238 B
+12 hr.		NRCES, Richmond, - SWOB Barge with small vessel and Marco Class XI, skimmer. EDRC = 24,000 B/D NRCES, Richmond – Shuttle barge with Action 60 Drum skimmer, EDRC = 4100 B/D NRCES, Alameda – Trailer 3208 = 7,500 ft. of fence boom SWOB will also carry 2,500 ft of 20 in. harbor boom. 1,200 ft. of 20 inch harbor boom on shuttle barge.	35,879 B/D	SWOB Barge= 120 B NRCES, Alameda 20k FRAC Tanks (10) = 4285 B NRCES- (Foss Contract) Tank Barge, FB 1= 12,500 B NRCES (Foss contract) Richmond Tank Barge FDH 35-1 = 17,658 B NRCES (Foss contract) Richmond Tank Barge FDH 35-2 = 17,658 B	82,459 B
+24 hr.					
+30 hr.	1,781 B/D: Benicia Planning Vol.				
+36 hr.					
+54 hr.	2,850 B/D Benicia Planning Vol.				
+60 hr.					

Note 1 - NRC ES has response capabilities for meeting equipment planning standards up to and including the calculated planning volumes.

Note 2 - NRC ES is under contract to provide required Shoreline Protection resources to meet the Valero Benicia Refinery planning Standards

Table 400-2. "On the Water" Planning Volumes and Contracted Equipment Sources (continued).

Spill Time	Benicia Facility Specific Planning Volumes Reference: USCG & OSPR Response Capability Caps	Response Equipment "Under Contract" (Company, Location, Derated Capacity)	Cumulative Derated Capacity	Storage Capacity (Company, Location, Capacity)	Cumulative Capacity
+24hr.	(25,000 B/D OSPR)				104,650
+30 hr.	5,260 B/D: Benicia Planning Vol. ----- 25,000 USCG				
+36 hr.	----- 37,500 B/D OSPR	Clean Seas, Carpentaria, CA, Mutual Aid OSRV, 10,000 B/D	33,800		
+54 hr.	9,000 B/D Benicia Planning Vol. ----- 50,000 USCG				
+60 hr.	----- 62,500 OSPR				

Note: Valero Refining Company- California, Benicia Refinery is an active, current participant in the MSRC, and as such is citing that OSRO has response capabilities for meeting equipment planning standards up to and including the calculated planning volumes.

500 TRAINING AND DRILLS

510 TRAINING PROCEDURES**511 GENERAL**

To the maximum extent possible, individuals' assignment to oil spill response team positions is based on the person's normal job experience and level of responsibility. For example, accountants are assigned to positions in the Finance /Admin Section of the response team. First-line supervisors from the Refinery who normally supervise contractor crews are assigned similar responsibilities in the spill response team. To the maximum extent possible, Response Team members then utilize skills from their everyday jobs in their role on the response team.

Positions on the response team are also assigned to match relative levels of normal-job responsibility. For example, personnel who are responsible for similar sized operations in their normal job assignments fill the Operations Section Chief position on the response team (a position in a large spill scenario, which might have 100 to 500 persons reporting).

By matching both skill-type and responsibility-level to the maximum extent possible, qualifications and training requirements are significantly simplified.

512 OSHA TRAINING

OSHA training is provided for all response team personnel, consistent with their responsibility and potential exposure to safety and hygiene concerns. All team personnel are provided with a basic 4-hour safety and hygiene program specific to oil spill response hazards and issues. This training is provided to all team members, regardless of position on the team. Training sessions are held periodically to provide the training to new team members.

Additional OSHA training is provided to team members based on the nature and expected risk exposure of their assignments (both on the spill response team and their normal job assignments). Process Team Spill Response Team members and supervisors (first responders) are provided comprehensive HAZWOPER training, including routine refresher training. Other response team members or groups are provided HAZWOPER training on topics applicable and pertinent to their job duties. For example, all team members routinely receive training and drill experience in the use and application of the Incident Command System, communications systems and procedures, waste management, etc. Safety training is also a part of every general and special training session, such as tracking and surveillance, wildlife pickup, etc.

Training certificates have been or are issued to team members and are maintained by the Benicia Refinery Safety Department.

513 PROCEDURES FOR TRAINING PERSONNEL: PROCESS TEAM-SPILL RESPONSE TEAM

The refinery technicians and supervisors who make up the initial spill response team begin their training with Benicia Refinery in "Basic Training". This program is outlined in other training program manuals. A summary is provided below:

BASIC TRAINING

Refinery Technician Trainees complete a structured training program during their first two years of employment. They reach the "Technician" step after three years. Progression steps for the first two years are based on successful completion of training requirements. Progression in the third year is based on adequate job performance.

BASIC TRAINING PHASE I

All new hire Technician Trainees receive more than four months of classroom, lab, and field training before being assigned work in the plant. All topics are tested and all tests must be passed with a score near 90%. Topic areas covered in Phase 1 training are:

Orientation	-	35 hours
Safety	-	101 hours
Academic	-	190 hours
Mechanical	-	220 hours
Process Post	-	200± 40 hours

These topics are described below:

Orientation

The orientation topics are administrative in nature. The topics include procedures such as insurance and benefits program enrollment and instruction in security, employee handbook, environmental controls, refinery economics, and training ground rules.

Safety

Technician Trainees are instructed in all safety aspects of the technician job. Safety courses are taught in areas such as: first aid, cardiopulmonary resuscitation (CPR), fire fighting, personal protective equipment, electrical safety, and the *Benicia Refinery Accident Prevention Manual*. All mechanical skill topics contain related safety subjects.

Academic Training

The purpose of the academic portion of Phase I Training is to bring all Technician Trainees to the same level of education. Although some topics are refresher high school level courses in areas of mathematics, algebra, and chemistry, the majority is specific to refinery needs. These

include: heat transfer, pumps, fluid flow, cooling towers, compressors, distillation, basic electricity, basic instrument operation, pressure, and furnaces. All course topics are designed to establish a strong foundation for further training in specific maintenance and process skills.

Mechanical Training

In Phase I mechanical training, Technician Trainees learn basic mechanical skills and introductory level equipment repairs and maintenance. They receive training in machinist, metals, instrumentation and electrical areas.

Process Post Training

The Benicia Refinery has a total of 17 process post operator positions. Each Technician is trained to operate three of these positions in the two-year basic training program. The first process post is taught starting in the 15th week of Phase I training. Learning time varies with process unit complexity. Process post training is approximately 50% classroom and 50% in the field.

BASIC TRAINING - PHASE II

Phase II basic training is taught in three progression steps approximately six months apart. In Phase II training, the Technician Trainee develops additional process and mechanical skills. The time required to teach Phase II topics is as follows:

	<u>Hours</u>
Mechanical	160
Process	<u>320</u> ± 80
Total	480

These topics are described below:

Mechanical Training

Topics in Phase II mechanical training reinforces and builds on the basic skills taught in the Phase I training. In the second year of employment, the Technical Trainee receives an additional 160 hours of training. Material taught in Phase II emphasizes more hands on and field time than in Phase I.

Process Post Training

The same criteria are used to teach the second and third process posts as were used in Phase I.

On-The-Job Training (OJT)

Upon successful completion of Phase II basic training, the Technician Trainee qualifies for Refinery Technical Trainee 1A level. At the completion of their third year and satisfactory progress they reach Technician status.

Process Team training also includes Recurrent Safety Training. This is the systematic method of refresher training which is used to maintain HAZWOPER topic updates. These topics are presented in a one or two day training format with classroom and/or field exercises as appropriate, usually once per quarter.

514 OIL SPILL RESPONSE TRAINING

PROGRAM OBJECTIVES

The objective of the training and drill program is to improve Benicia Refinery's ability to respond to a spill in a quick, competent, and caring manner. Ongoing training involves all of the Benicia Refinery responders including the local first response teams and Spill Management Team personnel. The program will continuously assess the strengths and weaknesses of the response teams and enable organizations to enhance their capabilities by implementing any improvements that may be identified.

KEY FEATURES

The annual training program includes activation/mobilizations, command/spill management training, equipment mobilization training, major tabletop simulations/drills, and specialized training. The objectives/scope of these activities are outlined on the following pages. The major drills address a broad range of spill scenarios involving Benicia Refinery organizations together with federal agencies, including the USCG, appropriate state and local agencies, Co-Ops, spill-response contractors, and consultants.

The Benicia Refinery oil spill response training and drills program involves over 500 Valero personnel each year. This significant effort is directed at maintenance/improvement of Benicia Refinery's oil spill response capability.

ACTIVATION/MOBILIZATIONS

The objective is to demonstrate rapid activation and mobilization of response teams to pre-designated locations for deployment to the incident site. At least one unannounced callouts are conducted each year with mobilization of appropriate personnel with response gear.

COMMAND/SPILL MANAGEMENT TRAINING

The objective is to familiarize response team management with principles of command/control, the Incident Command System (ICS) process and a disciplined approach to emergency response. These classroom sessions are generally conducted on an annual basis to educate new team members and refresh others.

EQUIPMENT MOBILIZATION TRAINING

The objectives are to demonstrate capability and operability of Benicia Refinery, Co-Op and selected contractor response equipment (boom, skimmers, telecommunications, etc.) and to provide training for Benicia Refinery operators. Selected equipment is mobilized and operated on a scheduled basis. Equipment deployment/operation may be incorporated into a major drill.

MAJOR TABLETOP SIMULATIONS/DRILLS

The objectives are to improve Benicia Refinery emergency management capabilities; demonstrate transition from initial responders (PT-SRT) to Refinery SMT, and to interface with Co-Ops, federal, state and local agencies and response contractors.

SPECIALIZED TRAINING

Objectives are to provide specialized training to selected response team members for areas judged to be very important, and to provide training necessary to meet statutory requirements (HAZWOPER, etc.). Examples of past specialized training includes the following:

- Wildlife Response--included wildlife experts from International Bird Rescue Research Center (IBRCC).
- Dispersants/In-Situ Burning--included technical experts in both these areas.
- Tracking/surveillance--included technical experts and demonstration of IR/UV equipment.
- Crisis Communication conducted by recognized media training experts and included on-camera and interview training.

TRAINING RECORDS

The company EHS training is administered through an intra-net web-based Learning Center known as "Active Learner".













Training is specified according to the duties and responsibilities in operation of the refinery. In addition to the required Dock Post Training, through the Active Learner system, the students are required to complete prescribed curriculum of OSHA, Environmental, Hazardous Materials, and Emergency Response classes.

Records of all training are maintained with the Training Department of the Refinery in a database which records both Active Learner Training as well as classroom training completions. Training records for an individual may be accessed by the department. A sample computer screen is attached for information.

All training records will be maintained on site for as long as individuals are assigned duties under the response plan and available for inspection upon request.

Training History

▲ Sorted by Course Code Ascending

Course Code:	Rev:	Course Title:	Completion Date	Score	Hours	Overview
BN-ART-H-004-01D	0	Vision & Operating Philosophy	02/18/2003	Pass	4.0	
BN-ART-O-001-01D	1	DOT Pipeline Qualifications Mech	10/01/2002	Pass	0.0	-
BN-ART-O-001-02D	1	DOT Pipeline Qualification OMS	10/01/2002	Pass	0.0	-
BN-ART-P-002-03D	1	Spill Mgt- Planning Section	06/15/2004	D	4.0	-
BN-ART-S-001-01T	0	Hazardous Waste - RST	10/21/1999	Pass	1.0	
BN-ART-S-001-02D	0	Hazard Communication Refresher - RST	08/31/2004	Pass	0.5	
BN-ART-S-001-02D	0	Hazard Communication Refresher - RST	10/21/1999	Pass	0.5	
BN-ART-S-001-03D	0	T-A Monitoring Results, Exposure Assessment	10/21/1999	Pass	0.5	
BN-ART-S-001-04T	0	Personal Protective Equipment	12/04/2003	Pass	0.5	
BN-ART-S-001-04T	0	Personal Protective Equipment	12/31/2000	Pass	0.5	
BN-ART-S-001-04T	0	Personal Protective Equipment	10/21/1999	Pass	0.5	
BN-ART-S-001-04T	0	Personal Protective Equipment	12/31/1995	Pass	0.5	
BN-ART-S-001-05D	0	Fall Protection	12/04/2003	Pass	0.3	
BN-ART-S-001-05D	0	Fall Protection	11/14/2002	Pass	0.3	
BN-ART-S-001-05D	0	Fall Protection	10/21/1999	Pass	0.3	

520 SPILL RESPONSE DRILLS

521 DESCRIPTIONS OF DRILLS

The Benicia Refinery conducts spill response drills and exercises in accordance the National Preparedness for Exercise Program (NPREP). This program has been adopted by all federal agencies (USCG, EPA, RSPA) and state agencies (OSPR). Under this program, all exercise core components, as identified by NPREP, will be tested over a 3-year period.

Exercises are coordinated by the Benicia Refinery Marine Terminal Superintendent, who has the responsibility to plan, conduct, and monitor spill response exercises and drills.

Drill and Exercises will be scheduled in advance and generally prepared at the beginning of each year. Federal (USCG/ EPA/RSPA) and state (OSPR) representatives will be advised of the schedule and their participation coordinated according to the exercise objectives. To receive credit from the OSPR for an exercise, OSPR must be invited to participate in both Equipment Deployment and Spill Management Team Tabletop exercises. Notice should be on the form provided at the end of this Section, or provide similar information in another form.

The minimum advance notification of State (OSPR) authorities for spill drills and exercises is summarized in the following table:

TYPE OF EXERCISE	ADVANCE NOTICE TO OSPR	MIN. ANNUAL REQMT.
Tabletop Exercise – In-State	30 days	Annual
Tabletop Exercise – Out of State	90 days	Annual
Equipment Deployment	30 days	2 times per year
Full Scale Combination Exercise	60 days	Optional
Area Exercise	120 days	Optional
Internal Unannounced Exercise	30 days	Annual

The following are summary descriptions of the types of exercises.

Facilities and Qualified Individual notification drills (weekly): Two systems of notifications drills are routinely employed: The first is conducted weekly and the second is conducted unannounced, on approximately a quarterly basis. This facility utilizes a comprehensive system and network of personnel pagers for emergency notification. Different special-response groups such as oil spill response team, operations management, the rescue squad and fire squad have pagers with “group-call” feature — whereby the group can be notified simultaneously. A test is conducted weekly, Monday at noon, of each of these notification systems. Problems identified in this system test are corrected on an individual case-by-case basis. Records of individual tests are not maintained.

On a unannounced basis, approximately four times per year the above notification system for oil spill responders is tested through an actual response scenario. These tests are conducted during nighttime, on weekends and holidays, as well as regular working hours. Some of the tests involve mobilization of the team to a designated rendezvous site, others involve a call-in

response by team members. Results of these notification drills are recorded in the Benicia Refinery monthly log of emergency responses and drills maintained by the Assistant Fire Chief.

Facility Equipment Deployment Drills (semiannually): The Process Team-Spill Response Teams rotate shift schedules over a 7-week shift schedule. Each team is expected to conduct an equipment deployment drill once per year, which will total 7 equipment deployment drills per year. Each team is encouraged to vary the drill scenario and equipment employed in the drills, thereby providing diversity in the training value of the drills. The Assistant Fire Chief maintains records of these equipment deployment drills.

Spill Management Team Tabletop Drills (yearly): Tabletop drills for the **SMT** are conducted on a yearly basis. The exercise will include uscg, epa, and RSPA jurisdiction scenarios. Benicia Refinery pipeline is located in a single response zone and it will be exercised at least every 3 years.

Unannounced Drills (annual): See Notification Drills above. As noted above, selected of these notification drills for **SMT** personnel are conducted as unannounced.

USCG COTP, CA OSPR or CA SLC Unannounced Drills (unknown frequency): Benicia Refinery will participate in government sponsored drills and will document and “credit” the drill, by type, for regulation compliance purposes.

522 DRILL RECORDS

Drill records are kept in the form of a monthly log maintained by the Benicia Refinery Fire Chief. The records include a description of the nature of the exercise, group or groups participating, number of participants, etc.

All training records will be maintained on site for at least a period of five-years and available for inspection upon request.

523 Conditions for Drill Substitutions

When necessary to rely on drills conducted by organizations such as NRC ES, which are not directly connected with or a part of the Valero Refining Company - California, Benicia Refinery Organization, sufficient, detailed records will be maintained to ensure proper documentation of the substitute drills in compliance with State and Federal regulations.

530 CONTRACTOR DRILLS

Contractors will be included in drills on a frequency and to an extent deemed appropriate to ensure the available and serviceability of their resources.

In addition, Valero commits to having their designated Spill Response Contractors participate in the testing and exercising of the Geographic Response Plan strategies for those sites that they have identified at risk in the Offsite Consequence Analysis.

Spill Response Contractors that Valero relies on for primary response are the following:

NRC ES

540 DRILLS AND EXERCISE FORMS

Copies of reference forms are included at the end of this Section. These include forms for reporting planned exercises, recording and evaluating drills, and advising of Lessons Learned.

INSERT DRILL FORM

<input type="checkbox"/> 7. Recovery
Other Participants (agen

Fax to: OSPR Drills and Ex

INSERT DRILL FORM

- ☐ Command Posts
- ☐ Response Plan Format (
- ☐ Scenarios
- ☐ Wildlife

ACP LL Rev. 2/96A

INSERT DRILL FORM

minimum of three yea

Attachments: _____

VALERO\prep drill form.doc

INSERT DRILL FORM

INSERT DRILL FORM

INSERT DRILL FORM

VALERO prep drill form.doc

INSERT DRILL FORM

VALERO prep drill form.doc

INSERT DRILL FORM

VALERO prep-drill form.doc

INSERT DRILL FORM

VALERO prep drill form.doc

600 PLAN REVIEW AND AMENDMENT REQUIREMENTS

This Plan will be reviewed and amended as described in this section to reflect facility changes that affect the worst case discharge, or the ability to fully implement the plan; and will be revised periodically.

610 AMENDMENTS FOR CHANGE AFFECTING PLAN IMPLEMENTATION

This Plan will be amended whenever there is a significant change that affects the implementation of the response plan. Significant changes may include:

- Change in the type of oil stored or transferred that materially alters the required response resources;
- Relocation, replacement, or new construction of pipelines, marine terminals, storage tanks, or related equipment in a manner that operationally affects the response plan or the worst-case discharge;
- Change in the worst-case discharge volume;
- Change in the response procedures;
- Change in ownership;
- Change in the person(s) qualified to activate the response plan;
- Contracting with new cleanup operators, if significant changes in response capability occur as a result of the new contract.
- Change in the National Contingency Plan or Area Contingency Plan that may have a significant impact on the appropriateness of response equipment or response strategies;
- Changes to information that may affect full implementation for the plan.

Such amendments will be implemented as soon as possible, but not later than the duration listed in Section 620 below.

620 PERIODIC REVIEWS AND EVALUATIONS

A review and evaluation of this plan will be periodically performed to comply with the regulatory requirements. As a result of the periodic review and evaluation, the plan will be amended, if necessary, to include more current or effective response measures identified. The time frame for revisions to reflect significant facility changes as described in Section 610 are also identified below.

- Annual review, within one month of the anniversary date of the COTP approval to incorporate any changes in the listings of economically important or environmentally sensitive areas identified in the ACP in effect six months prior to the Plan review.
- Three year review, coincident with SPCC review, for the portions of the plan addressing facilities subject to USEPA requirements. Sixty days for revisions after changes to portions of the facility subject to USEPA requirements.
- Five year resubmittal and review for the plan addressing DOT (RSPA) pipeline requirements. Thirty days for revisions after changes to portions of the facility subject to DOT (RSPA) pipeline requirements.
- Five year review for the portions of the plan addressing USCG marine transportation related facility requirements, or after significant change.
- Review and submittal of plan on March 3, 2008 addressing State of California OSPR regulations consistent with current statutory requirements. A review of the plan effectiveness and the need for plan amendments will be submitted to the OSPR Administrator within 90 days of a significant spill event. The plan will be reviewed and resubmitted at least every five years.

In addition, a review of the Plan will be conducted after each significant incident. As necessary, the Plan will be modified to accommodate "lessons learned" or incorporate other information that will improve future response.

Amendments to the Plan will be submitted to the appropriate agencies for information and approval

630 PLAN REVIEW AND AMENDMENT DOCUMENTATION

631 Plan UPDATING PROCEDURES

Plan revisions or amendments may be generated as a result of the annual and review process, or by a post drill/post discharge review as discussed above. If new or different operating conditions or information is determined to substantially affect the implementation of this Plan, this Plan will be immediately modified to address such a change and, within 30 days of making such a change, submit the change to the authorities.

A vertical line along the right side margin will mark the changes in the initial issue of a modified plan (as this paragraph is identified). Shorter changes are highlighted by ***Double Underline***.

Every revision or amendment will be forwarded to all Plan holders as shown in the Plan Distribution in Table 600-1. Specific instructions directing the removal of pages and insertion of replacement pages, and notation of the changes on the Record of Changes form, located in the front matter of this Plan will accompany each revision or amendment distributed to Plan holders.

Each review or amendment to the Plan will be documented in the Record of Changes log located at the beginning of the Table Of Contents section. A sample blank log sheet is provided at the end of this section. Documentation shall include a summary of the review or amendment, the number, date, and plan section(s) affected by the review or amendment, and the name and signature of the person completing the review or amendment.

The plan is required to re-submitted to Department of Transportation, RSPA Office of Pipeline Safety every 5 years from the last submission date. If the plan revision on file is current, the facility should advise by letter that the plan on file can be reviewed for the re-submittal

Record of Changes

Change Number	Effective Date	Scope of Revision	Person Entering Change	Date Entered
1				
2				
3				
4				
5				
6				
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640 PLAN DISTRIBUTION**TABLE 600-1 OIL SPILL CONTINGENCY Plan DISTRIBUTION**

	Recipient Name	# of Copies	Response Plan Copy Location Address
	U.S. EPA	1	Region IX ERS (H83) 75 Hawthorne Street San Francisco, CA 94105
	U. S. Coast Guard	1	Commanding Officer Marine Safety Office - San Francisco Coast Guard Island, Bldg 14 Alameda, CA 94501-5100
	Office of Pipeline Safety	2	Research and Special Programs Admin. Department of Transportation 400 Seventh St. S.W. Washington, DC 20590-0001
	State Lands Commission Northern California Field Office	1	725-B Alfred Nobel Drive Hercules, CA 94547-1897
	California State Lands Commission Marine Facilities Inspection & Management Division	1	330 Golden Shore, Suite 210 Long Beach, CA 90802
	California Department of Fish and Game Office of spill Prevention & Response (California Coastal Comm. will coordinate with OSPR for review of the plan)	1	1700 K Street, Suite 250 Sacramento, CA 95814
	Benicia Fire Department	1	
	Benicia Refinery	1	
	- Berth 1	1	
	Oil Spill Response Team Coordinator	1	
	Ops Superintendent office	1	
	Admin Building – Conference Rm. A	1	

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APPENDIX A - SPILL PREVENTION, CONTROL, AND COUNTERMEASURES PLAN (SPCC)

FACILITY INFORMATION

A1.1 GENERAL

The Benicia facilities are surrounded by industrial, business and residential areas. Land to the north and west of the refinery is generally open space. Areas to the east and southeast of the refinery and Benicia Terminal are light industrial. There is a dock associated with the refinery. The dock is surrounded by a light industrial complex. Pipelines from the refinery to the Dock pass adjacent to residential portions of Benicia and along the waterfront road. A vicinity road map, a topographic maps of the site and surrounding areas, and charts of the Carquinez Strait and Suisun Bay are located are enclosed in pockets at the end of this OSCP.

A1.2 LOCAL ACCESS

Most of the waterfront from the car storage lot westward is accessible. The shoreline to the east of (and includes the car storage lot) has restricted land access. Benicia Refinery does not maintain prearranged agreements for access to private lands.

A.1.3 SITE AND LOCAL DRAINAGE

A.1.3.1 Benicia Refinery and Benicia Terminal

Drainage from the Benicia Refinery and the Benicia Terminal are collected by two main sewer lines which are connected to the Wastewater Treatment Plant. The Chemical Sewer System collects wastewater from the Sulfur Gas Unit, Tail Gas Unit, Fluid Cracking Unit and De-oiling Unit. The Storm and Oily Water Sewer System collects all other process wastes, wastewater from the Main Processing Area, and storm water runoff. Treated wastewater from the Wastewater Treatment Plant is discharged into Carquinez Straits at a depth of 18 feet, approximately 1100 feet offshore. This discharge is regulated through an NPDES Discharge Permit administered by the SFBWQCB.

Four discharge points receive storm water runoff from the refinery property. Storm water collected along the western boundary of the Wastewater Treatment Plant is discharged through two culverts to Sulfur Springs Creek. Storm water runoff is collected near the water service entrance box at the north end of Avenue A in the northeast corner of the refinery is discharged through a culvert to a ditch tributary to Sulfur Springs Creek. Storm water collected near Gate 4, on the south side of the processing area is discharged to a ditch which joins a ditch tributary to Sulfur Springs Creek. Storm water is also discharged near the northern corner of the Crude Oil Storage Area, via a ditch which also discharges into Sulfur Springs Creek.

Additional details of drainage is described in the Spill Control and Countermeasures Plan (SPCC) maintained at the facility and available for review upon request.

A.1.3.2 Benicia Asphalt Plant

The Benicia Asphalt Plant itself is bordered by Park Road on the east, a drainage channel on the north, and Valero on the west. The property is roughly wedge-shaped; thus, the east and west boundaries converge at the south end of the property, which is also the main plant entrance (refer to Site Map). The main plant entrance is at the upper end of the site; and the plant offices and laboratory are located on an elevated pad near the entrance. Descending the hill to the north are terraced areas which include the Asphalt Plant process area, tank farms, and the wastewater treatment area at the bottom of the hill. Truck loading racks are located toward the plant main entrance at the top of the hill, while the rail car loading rack is along the north edge of the property at the bottom of the hill.

The Asphalt Plant is designed to capture oil spills (resulting from events such as a major equipment failure) via area drains located throughout the plant and to route them to the Plant's Water Oil Recovery/Treatment (WORT) system which recovers the oil. Refer to Site Map-5 of this Business Plan. Benicia Asphalt Plant's treated wastewater is discharged to the City of Benicia, which is a POTW (Publicly Owned Treatment Works). The discharged wastewater effluent is sampled and monitored on a routine basis. In case of a large spill, Asphalt Plant shuts down all discharges to the POTW. It will not begin to discharge to the POTW, unless it has determined that the discharge meets the City's discharge parameters.

The Benicia Asphalt Plant's process area, tank truck loading rack, and crude off-loading rack slope toward the WORT system's area drains. In case of an oil spill, the spill is collected via the area drains and is routed toward plant's WORT system which is capable of recovering the spilled oil and returning it to the plant's crude oil tanks. (Refer to previous footnote 2.) Clean storm water throughout the Asphalt Plant is routed to the facility's storm water tank. If any spilled material enters the storm water system, the plant has the capability to return the spilled materials to the WORT system.

A.1.3.3 Marine Terminal

Refinery marine terminal is located on the north side of the Carquinez Strait and approximately 4,000 feet downstream of the Benicia-Martinez Bridge at the seaward end of the Benicia industries wharf No. 95.

The dock is designed to handle tankers ranging from about 17 KDWT to 211 KDWT, with a maximum 173' beam width and a maximum 1005' length and barges from 20,000 to 150,000 barrels. The dock facilities are for 1 vessel/1 operation. The only simultaneous operation that could occur on our dock would be a ship offloading to our facility while a bunker barge is offloading bunker fuel to the ship.

The main portion of the dock is 350' long and 50' wide. It is of pipe piling and reinforced concrete construction. Situated on the deck of the dock is the tie-up crew shelter, the drain

system (sump and sump pump), three (3) 16" hydraulically operated unloading arms, and (3) 10" hydraulically operated Loading/unloading arms and one 12" vapor unloading arm and manifold, gangway and operating controls, fire system and bollards. The dock is equipped with a flexible fender system for absorbing tanker impact. Safety ladders are provided at each end of the dock. Oil spill response boats and additional oil spill equipment are stored at the dock and in the Oil Spill Building. Attached to the dock are mooring dolphins, which are provided for securing of the ships' bow and stern mooring lines. There are two mooring dolphins attached to each end of the dock with access to the dolphins provided by a 3' catwalk attached to the main dock. The dolphins are provided with a power capstan and quick-release mooring hooks of 100-ton capacity each. On the two dolphins nearest the dock, there are two hooks each, on the dolphin nearest the Benicia-Martinez Bridge there are three hooks, and on the dolphin nearest the Benicia Industries Dock, there are four hooks. To release a hook insert the steel rod in the square hold on top of the hook frame and pull back towards the capstan. A fifth dolphin is provided next to the Benicia-Martinez Bridge, which serves as a protective device for the bridge.

The technicians' shelter at the dock is equipped with sanitary facilities a hot water heater, air conditioning, telephones, microwave, desk and chairs.

B. PROCESS EQUIPMENT

1. Unloading Arms and Motor Operated Valves

LA-1907 A, B, and C are the three (3) 16" Crude unloading arms. The arms are hydraulically operated with a 33' riser and a 60' overall length. Being equipped with two swivel joints, they can be elevated, swung transversely, and extended in order to compensate for ships' manifolds. The hydraulic system is equipped with a neutral "float" position to compensate for ships' movements due to tidal changes and discharge of cargo. The remote control platform for the arms is elevated to afford the operator good visibility of the ships' manifolds during operation. The connecting flange is a 12" 150# on each of the three (3) arms.

The base of the arms is piped to three (3) 16" motor operated valves, which are connected to a common discharge header to the 36" line to crude tankage. There is a 36" Motor Operated Valve (MOV) on the crude line across the street from the dock. All of the MOV's in the crude unloading system have hand-actuated switches and position indicating lights. The 36" valve on the crude unloading line can be remotely operated from the dock. The three (3) 16" MOV's are part of the emergency shutdown systems.

2. Unloading Arm Hydraulic System.

The hydraulic system for LA-1907 A, B, and C is operated and maintained by Valero and Contractor personnel. The hydraulic reservoir and pressuring pump is located east and adjacent to the old Dock Shelter. The tower controls, which operate the arms, are located at the base of each individual loading arm.

3. LA-1908 AB&C AND LA-1909.

LA-1908 AB&C are the PRODUCT loading/unloading arms. LA-1909 is identical to LA-1908 AB&C, but is in Vapor service for the Dock Vapor Recovery Unit (DVRU). These arms are manufactured by Emco Wheaton, are hydraulically operated and include a riser, arm, inlet pipe, flange and swivel, hydraulic motors and cylinders, control switching valves, counterweights, and support structure. (See specific design criteria in Section 17). Being equipped with two swivel joints, they can be elevated, swung transversely, and extended in order to compensate for the vessel manifold. The hydraulic system is equipped with a neutral "float" position to compensate and allow for vessel movements due to tidal changes or discharge of cargo. The base of LA-1908 AB&C are piped to a specific dock line, however, by using the flush manifold we are able to use any arm in combination with any product. LA-1909 is only used for the DVRU.

4. Dock Drain System.

Each loading arm at the Dock is equipped with a 3" drain line. Each arm used during discharge must be drained prior to storing. The drains are hard-piped to an enclosed sump TK-1918. TK-1918 is a circular sump located just east of the old Dock Shelter and within the loading arm drain pad. It is of steel construction, 9' in diameter and 5' high, with a capacity of 3090 gallons. There are two (2) small pumps on the sump, P-1918 and P-1956. Each discharges into the 36" crude line downstream of the 36" MOV. The pumps can also be lined up to discharge directly into the loading arm header. P-1918 is primarily used for pumping crude or heavier hydrocarbons, while P-1956 is used to pump gasoline and lighter components. The pumps may be started locally, but usually have their local switches in the "auto" position, which starts the pumps automatically when TK-1918 reaches 4'. Care should be taken while draining the loading arms that only one arm is open at any one time, as neither sump pump has sufficient capacity to handle the drainage from two arms, and a spill could occur. TK-1918 is vented through a 3" vent pipe 24' in length to atmosphere. Should over-filling occur, crude oil could be dumped into the bay from this line. If the tank level should rise above 4', an alarm will sound at the dock and at "B" Control. It is important that when securing the dock, one of the pump switches is in Auto so that control of the sump level is maintained. This is also very important during rainy weather. The arm drains are left open to avoid filling should a valve leak.

The physical geographical features of the area surrounding the marine terminal as well as general shoreline access area are shown on Figure A-1. In addition, the sensitive area maps for the environment surrounding marine terminal are included in Appendix A.

A.1.4 HYDROGRAPHIC AND CLIMATIC CONDITIONS

Weather in this region is predominantly dry. Rain and fog appear mostly during the period from November through April. Average rainfall ranges from fourteen to eighteen inches. Fog occurs occasionally in the morning and evening in summer months and morning or tule fog occurs in the winter. The winter fogs are generally denser than those of summer. The Dock is equipped with a fog horn. Average temperatures range from the thirties in the winter to the nineties in the summer. The wind direction is primarily from the northwest. However, on the water, the wind is generally channeled through the Carquinez Strait.

The diurnal tidal range is approximately 5.1 feet with a mean range of approximately 3.8 feet. Tidal currents range from almost 2.0 knots during flood to almost 2.5 knots during ebb. Flow direction is generally parallel to the dock frontage. The complex maintains an on-line computer system that provides local tide and current information. In addition, tide and current tables are available at the Marine Terminal Control Room.

A.1.5 MATERIAL SAFETY AND HAZARD INFORMATION

For detailed material safety and hazard information for specific products, refer to the MSDS's available at the Dock, Operations superintendents' office, and on the Valero Intranet system.

MARINE TERMINAL & PIPELINE OPERATING PROCEDURES

A general discussion of the features and operations of the marine terminal and pipelines is provided in this section. Refer to the Dock Operations Manual and Pipeline Operations and Maintenance Manual for detailed discussion and information relating to respective systems.

A description of the normal and emergency procedures relating to all transfers at the dock is contained in the "Dock Operations Manual". This manual meets the regulatory requirements for USCG and California State operations requirements for marine transfer facilities. Note: Crude oil is not loaded at the marine terminal.

A.2.1 MARINE TERMINAL

A2.1.1 Dock Operations

1. The dock will be manned 24 hours a day. The tie-up crew will have been notified by the Shift Superintendent. All safety and firefighting equipment must be checked for condition and operation. The firewater pump should be started and each monitor and hose reel operated to flush and ensure operability. Warning signs should be posted on the dock and approach ramp. These signs are required by Coast Guard regulations.
2. Prior to vessel arrival, the crude field technician will prepare the shore tank or tanks to receive crude.
3. As the ship approaches the final stages of docking, the technician will normally be asked by the captain or pilot, to "spot the manifolds or ship" by relaying vocally how much forward or aft the ship must move to center her discharge manifold with the unloading arms.
4. After the ship has been properly moored and the gangway secured to the ship, the technician will board and converse with the first mate about unloading procedures and necessary paperwork. Included in the papers to be signed are: a statement of readiness on the part of the tanker to discharge, and a pollution statement. The pollution statement calls to the attention of ship personnel that discharge of contaminated ballast bilge water or slop oil to the bay is positively prohibited while a vessel is at the refinery dock.
5. These are federal regulations and heavy fines may be levied against those responsible for breaking them. A Declaration of Inspection must also be signed to ensure that Coast Guard and SLC regulations have been met by both vessel and docking facility. This document must be properly signed and available to the Coast Guard and SLC Inspectors upon request or a fine may be levied. A Dock Checklist is also provided to the technician and must be filled out and signed by the dock technician. In addition, a cargo information card will be given to the mate at this time. This card describes the hazards associated with the product being loaded or unloaded and action to take in the event of a fire or spill and lists emergency phone numbers.
6. Gauging, temperature and initial sampling of the ship's cargo will be done by a Certified Gauging Inspector. The gauger will notify the technician when they are finished and

- supply copies of their figures at the completion of discharge. While the technician is not actually doing the gauging, they are responsible for seeing that it is done correctly.
7. When the mate informs you that discharge has begun, notify B Control of the time and log on the Crude Dock Checklist, vessel pumping record, and in the log book. If unloading is stopped, record the time and reason in the log book and notify B Control. Upon resuming unloading, record the time. Check for leaks, oil in the water, and verify an up gauge in the receiving tank with B Control. During the unloading, compute and record the ship's pumping rate on the sheet provided.
 8. Maintain dock papers and checklists for unloading and the crude samples. Under no circumstances should the dock technician leave the dock area without permission while a tanker is discharging. At least once per hour, check all connections, the sump, and water for possible oil spills.

A.2.1.2 EMERGENCY SHUTDOWN

(b) (7)(F)



A.2.2 Pipelines

The CSA is responsible for the safe operation of the pipelines while performing the daily refinery oil movements. However, the equipment the CSA can personally monitor and control is limited. Because of these limitations, the operations technicians assist the CSA in the performance of the monitoring and control functions of the pipelines.

The pipelines are pressurized by the action of pumps located at:

- Benicia refinery;
- Shell Pipeline;
- Shore Terminal Martinez
- various marine vessels.

Benicia Refinery will provide a means to record the discharge pressure of these pumps whenever the lines are in operation. The pressure monitoring equipment shall be located locally at the Marine Terminal, and remotely at the refinery oil movement control room and the Equilon Pipeline control room. The recording of pressure shall be performed by any generally accepted method, provided the data recorded can be filed and reviewed for a period of three years. The records shall be maintained in a central location, as designated by the Oil Movements Team Leader, readily available for inspection by the CSFM or other government agencies as requested.

Prior to the commencement of any oil movement, the CSA and operations technicians will review the appropriate operating procedures. These procedures define the specific operating and monitoring responsibilities for the upcoming oil movement.

The CSA will work, in cooperation with the operations technicians, to align the required valves, in the required order, prior to the commencement of any oil movement (via the night orders). Once the appropriate alignments to the system are made, the appropriate pumps may be started. As the appropriate pumps are started, the CSA and/or the operations technicians are jointly responsible for closely monitoring the pressure on the pipelines to insure operating conditions do not exceed the maximum operating pressure (MOP) of the pipelines.

Once the operations have stabilized, the operations technicians shall assist the CSA to periodically monitor the pressures on the pipelines. During the oil movements, the CSA will be responsible for monitoring the bulk movement of the liquids into and out of the pipelines. This is accomplished by monitoring the rise and fall of the facility tank gauges. During any oil movement, it is normal for the pipelines to be switched into additional tankage. The CSA (and night orders) will direct the operations technicians to make the needed valve alignments to accomplish the tanks switch. The CSA shall insure that the flow is established into the new delivery tank prior to directing the operations technicians to switch out of the active delivery tank. During any oil movement, it is normal for the pipelines to shut-down for any number of reasons (product sampling, line flushing, etc.). It is the responsibility of the personnel in charge of pump starts/stops (CSA, operations technicians, or the marine vessel) to communicate his intentions with the other operating parties involved prior to executing any start/stop. Any restarts of the pipelines shall be monitored closely until operations have stabilized once again.

As the oil movement nears completion, the CSA will closely coordinate with the operations technicians (the operations technicians will coordinate with the marine vessel if applicable) to safely shut down the pipelines. The CSA and operations technicians will increase their system

surveillance to insure the safe operation of the pipelines. If required, the CSA will direct the operations technicians to shut-down the pumping units. The operations technicians will insure that all pumping units have been shut down prior to performing any of the necessary valve alignments to secure the pipelines from active operation.

Any unusual operating scenarios to be utilized on the pipelines shall be thoroughly discussed between the CSA and the operations technicians prior to implementation. A written operating plan is developed and reviewed with all operating personnel involved.

The ships/barge pumps deliver crude oil to the loading/unloading arms at a pressure of 100 psig or less. The 24-inch pipeline (designed for 150 psig) carries crude oil from the marine terminal to the refinery's crude oil storage tanks by means of a manifold system. The crude goes through the refinery's Liquid Accounting Custody Transfer (LACT) unit and into one of four crude tanks. (b) (7)(F)

. A diagram of crude tank farm pipeline manifold is shown in Figure II-7 of this plan.

A.2.3 OIL STORAGE TANK SUMMARY

TANK No.	PARCEL	(b) (7)(F)	YEAR INSTALLED	CONTENTS	PHYSICAL STATE @60°F
1701**	2		1968	Crude	Liquid
1702**	2		1968	Crude	Liquid
1703 **	2		1968	Crude	Liquid
1704 **	2		1968	Crude	Liquid
1705**	2		1968	Crude	Liquid
1706 **	2		1968	Crude	Liquid
1707 **	2		2008	Crude	Liquid
1708 **	2		2008	Crude	Liquid
1711	1		1968	Powerformate	Liquid
1712	1		1968	Gas Oil/Recycle Product	Liquid
1713	1		1968	Gas Oil	Solid/Liquid
1714	1		1968	Gas Oil	Liquid
1715	1		1968	Gas Oil	Liquid
1716	1		1968	Gas Oil	Liquid
1717	1		1968	Coker Feed/Carbon Black Oil	Solid/Liquid
1718	1		1968	Coker Feed	Solid
1719	1		1972	Coker Feed	Solid
1720	1		1972	Gas Oil	Liquid
1721	1		1968	Mixed & Normal Butane	Gas
1722	1		1968	Isobutane	Gas
1723	1		1968	Propane	Gas
1724	1		1968	Propane	Gas
1725	1		1968	Butylene & Propylene	Gas
1726	1		1968	Mixed & Normal Butane	Gas
1732	1		1968	Blend Component/Recycled Product	Liquid
1733	1		1968	Product Blending Component	Liquid
1734	1		1968	Product Blending Component	Liquid
1735	1		1968	Product Blending Component	Liquid
1736	1		1968	Product Blending Component	Liquid
1737	1		1968	Product Blending Component	Liquid
1738	1		1968	Crude Water Draw	Liquid
1739	1		1970	Product Blending Component	Liquid
1740	1		1992	Product Blending Component	Liquid
1741	1		1995	Pentane	Liquid
1751	1		1968	Motor Gasoline	Liquid
1752	1		1968	Motor Gasoline	Liquid
1753	1		1968	Recycle Product	Liquid

TANK No.	PARCEL	(b) (7)(F)	YEAR INSTALLED	CONTENTS	PHYSICAL STATE @60°f
1754	1		1968	Motor Gasoline	Liquid
1755	1		1968	Motor Gasoline	Liquid
1756	1		1968	Motor Gasoline	Liquid
1757	1		1968	Crude Water Draw Recycle Product	Liquid
1758	1		1968	Motor Gasoline	Liquid
1759	1		1968	Motor Gasoline	Liquid
1760	1		1968	Motor Gasoline	Liquid
1761	1		1968	Motor Gasoline	Liquid
1762	1		1968	Motor Gasoline	Liquid
1763	1		1968	Motor Gasoline	Liquid
1771	1		1968	Motor Gasoline	Liquid
1772	1		1968	Jet Fuel	Liquid
1773	1		1968	Diesel	Liquid
1774	1		1968	Diesel Fuel	Liquid
1775	1		1968	Diesel Fuel	Liquid
1776	1		1968	Motor Gasoline	Liquid
1777	1		1968	Diesel Fuel	Liquid
1778	1		1968	Jet Fuel	Liquid
1779	1		1968	Jet Fuel	Liquid
1791	1		1968	Gasoline Water Draw Recycle Product	Liquid
1793	1		1968	Crude Water Draw Recycle Product	Liquid
1795	1		1969	Recycle Product	Liquid
1796	1		1971	Wastewater Separation	Liquid
1797	1		1971	Out of Service	Liquid
1798	1		1975	Diesel Fuel & Gas Oil	Liquid
1801	1		1968	Out of Service	Liquid
1802	1		1968	Fuel Additive	Liquid
1803	1		1968	Out of Service	Liquid
1804	1		1968	Fuel Additive	Liquid
1805	1		1968	Fuel Additive	Liquid
1809	1		1968	Fuel Additive	Liquid
1812	1		1968	Fuel Additive	Liquid
1820	1		1995	Ethanol	Liquid
1901	1		1968	Molten Sulfur	Solid
1902A	1		1968	Coke	Solid
1902B	1		1968	Coke	Solid
1943	1		1995	Ammonia	Liquid

BENICIA ASPHALT PLANT OIL STORAGE TANK SUMMARY

TANK No.	PARCEL	(b) (7)(F)	YEAR INSTALLED	CONTENTS	PHYSICAL STATE @60°f
4601A				Crude Oil	Liquid
4601B				Crude Oil	Liquid
4601C				Gas Oil	Liquid
4602A				Asphalt	Liquid
4602B				Asphalt	Liquid
4603				Asphalt	Liquid
4604				Asphalt	Liquid
4605				LVGO	Liquid
4606				Water	Liquid
4607				Naphtha	Liquid
4608				Kerosene	Liquid
4609				Spent Caustic	Liquid
4610A**				Crude Oil	Liquid
4610B				Crude Oil	Liquid
4627				Oily Water Weir	Liquid
4629				Wharf Sump	Liquid
4630A				Asphalt	Liquid
4630B				Asphalt	Liquid
4631				Distillate Product	Liquid
4632				Asphalt	Liquid

A.2.4 Communication

Communication of operating information between the Oil Movements and the operations technicians is critical for the safe operation of the pipelines. The safe operation of the pipelines requires reliable communications in three forms:

- data communications via phone lines for pressures, tank levels, system alarms, and some pump start/stop controls;
- voice communications of field monitored and controlled operating information via portable radio (also used to communicate with marine vessels); and

- voice communications of field monitored and controlled operating information, and communications to outside government agencies (emergency conditions) via a non-company telephone system.

APPENDIX A.3**SPILL PREVENTION, CONTROL, AND COUNTERMEASURES PLAN**

Additional information relating to the facility provisions are described in the spill Prevention, Control, and Countermeasures Plan (SPCC) which has been prepared in compliance with 40 CFR part 112.

The information contained therein is intended to supplement that provided in this plan as describing the spill prevention and control features within the confines of the Benicia Refinery, Benicia Asphalt Plant, Tank Farm, and Marketing Terminal.

The SPCC Plan is maintained at the facility and is available for review upon request.

APPENDIX B - CONTACT LIST

The information and contacts provided in this appendix supplement the required notifications of personnel and federal, state, and local authorities identified in the “notification - section 210” of this plan.

TIME/INFO	AGENCY	PHONE NUMBER
LOCAL EMERGENCY FACILITIES		
	<u>EMERGENCY</u>	911
	Fire Department	(707) 745-2424
	Police Department	(707) 745-3412
	<u>AMBULANCE SERVICE</u>	
	<i>In Plant Emergency</i>	<i>Dial 2222</i>
	Solano Ambulance Service	(707) 642-4468
	Medical Ambulance Service	(707) 644-8989
	<u>HOSPITALS</u>	
	Queen of the Valley, Napa	(707) 252-4411
	North Bay Medical Center, Napa	(707) 429-3600
	Kaiser, Vallejo-Napa-Fairfield	(707) 648-6000
	John Muir Medical Center, Walnut Creek	(925) 939-3000
	Diablo Valley, Concord	(925) 671-2222
	Brookside (Burn Center), San Pablo	(925) 235-7006
	Merrithew Memorial, Martinez	(925) 370-5000
LOCAL RESOURCE AGENCIES		
	Solano County Environmental Health Services	(707) 421-6770
	Solano County Sheriff	(707) 421-7090
	Bay Area Air Quality Management District	(415) 771-6000
	Solano County Office of Emergency Services	(707) 421-6330
	Nights:	(707) 421-7090
	Regional Water Quality Control Board	(510) 622-2300
	Water Supply System (EBMUD)	(510) 232-5051
	Pacific Gas and Electric (PGE)	(925) 674-6314
	Night and Emergency	(925) 370-2870

TIME/INFO	AGENCY	PHONE NUMBER
STATE AGENCIES		
	Bay Area Conservation Development	(415) 557-3686
	Cal OSHA	510- 676-5333
	Cal Trans	(510) 939-0400
	California Conservation Corp	(916) 445-8183
	Office Oil Spill Prevention and Response dispatch	(916) 358-1300
	California Department of Fish & Game California Highway Patrol	First: (916) 323-4335 (916) 324-6450 Alt.: (916) 323-0635 (707) 648-5550
	Commission/ California Coastal Commission Oil Spill Program	(415) 904-5247: (415) 201-5792 pager
	Department of Toxic Substances Control	State: (916) 324-1826; Regional Office: (510) 540-2122; (800) 698-6941 (24 hours)
	Native American Heritage Commission	(916) 653-4082; Fax: (916) 657-5390
	Office of Historic Preservation Dept. Parks and Recreation	(916) 653-6624; Fax: (916) 653-9824
	Resource Protection Division Dept. Parks and Recreation (State Archaeologist)	(916) 653-4529 (24 hour recorder)
	State Fire Marshall	(916) 366-1516
	State Lands Commission Long Beach Office	(562) 590-5201
	State Lands Commission Northern California Field Office 24 hr.	(510) 741-4950
FEDERAL AGENCIES		
	Federal Bureau of Investigation	415-553-7400
	U. S. Secret Service	415-744-9026
	USCG Sector San Francisco – Duty Officer	(415) 399-3545
	National Weather Service (NWS)	(510) 936-1212 (415) 364-6854 (408) 656-1717 (RESTRICTED)
	National Oceanic and Atmospheric Admin.. (NOAA), Scientific Support Coordinator) (SSC)	(510) 437-5844; (800) SKY-PAGE (759-7243) Pager PIN #579-8818

B-2 – SUPPLEMENTAL CONTACTS LIST

MUTUAL AID	
Chevron (Central District for PMAO)	510-242-5555
Conoco Phillips Refinery (Rodeo)	925-799-4411
Valero Benicia Refinery	707-745-7562
Shell Refinery (Martinez)	925-313-3000
Tesoro (Avon)	925-228-1220
NEIGHBORING PROPERTIES/MARINAS/ACCESS	
Benicia Marina	707- 745-2628
Martinez Marina	925-313-0942
Glen Cove Marina	707-552-7450
Crockett Marina	925-787-1047
Naval Weapons Station	925-246-5890
Rhone Poulenc	925-228-5530
LOCAL ACCOMMODATIONS	
Best Western Heritage Inn 1955 East Second Street, Benicia	707-746-0401
Ramada Inn Vallejo 1000 Admiral Callaghan Lane	707-643-2700
Hilton Concord 1970 Diamond Blvd	925-827-2000
Holiday Inn Vallejo 1000 Fairgrounds Dr	707-6441200

APPENDIX C – RESPONSE EQUIPMENT AND RESOURCES

C.1 BENICIA REFINERY SPILL RESPONSE EQUIPMENT

The Benicia Refinery maintains an inventory of equipment for initial response to land and marine oil spills. Under most circumstances, this equipment should be adequate for response to minor releases.

The typical working inventory of oil spill response resources maintained is described below:

SPILL BUNKER # 214 INVENTORY AS OF JULY 15th, 2008			
TYPE	SIZE	PACKAGE QTY	TOTAL
SORBENT PAD			
AT-50	3' x 2.5'	50 per bale	35
ENV-100			
SORBENT PAD	15" x 19"	100 per bale	71
SPC 1900			
SORB SWEEP	19' x 100'	100' per bale	12
MATASORB			
SORBENT PAD	3/8" x 4' x 4'	25 per bag	31
OIL SNARE	W/O Rope	30 per box	54
OIL SNARE	With rope	100' per bag	279
POLY SORB			
OLD STYLE	8" Sorbent boom	40' per bag	88
SPC 810			
NEW STYLE	8" Sorbent boom	40' per bag	197

APPENDIX C – RESPONSE EQUIPMENT AND RESOURCES

SPILL SHELTER SORBENT INVENTORY JULY 15TH, 2008			
TYPE	SIZE	PACKAGE QTY.	TOTAL
Oil Mop rope	6 inch	100'	7
Snare	W/O Rope	30 per box	7
	W/O Rope	60 per box	2
Sweep			
Q-Boid	12' x 12"		9
Matasorb			
Sorbent Pad	3/8" x 4' x 4'	25 per bag	8
ENV-100			
Sorbent Pad	15" x 19"	100 per bale	14
Poly Sorb			
Sorbent boom	8"	40' per bag	13
3M type 270			
8" sorbent boom	8"	40' per bag	28
Down Pads SP-0002	19" x 19"	20 per bag	25
Chem Pro Emergency Spill Kits		Each	5

NRCS VESSELS ON SITE AT DOCK			
TYPE	SIZE		TOTAL
Boston Whaler			
Unit # 6409	25'		1
Safeboat			
Unit # WB-200	23'		1
Special note concerning above listed vessels: Either 6409 or wb 200 is always on site depending on their maintenance schedule.			

APPENDIX C – RESPONSE EQUIPMENT AND RESOURCES

CONTAINMENT AND RECOVERY			
TYPE	SIZE	PACKAGE QTY.	LOCATION
<u>CONTAINMENT</u>			
HARBOR BOOM	20"	2,500'	Valero Old Pump House Yard Unit 2027
HARBOR BOOM	20"	2,500'	Martinez Marina on K-Boat/Barge Set
<u>RECOVERY</u>			
Vikoma Weir Skimmer NWS-100	5520		Valero on Trailer 342
Vikoma Cascade Skimmer WS-008a	6857		Valero on Trailer 342
Aquaguard Brush Skimmer NAG-001	7394		Valero on Trailer 342
Power Pack for Aquaguard DPPAG001			Valero on Trailer 342
Vacumn Transfer Unit / Power Pack 222-N			Valero on Trailer 342
Control Panel for Vikoma System NWS-100			Valero on Trailer 342
<u>VALERO DOCK BOOM</u>			
East End Boom Reel	1,250'		East end of dock on hydraulic powered reel.
West End Boom Reel	1,500'		West end of dock on hydraulic powered reel.
SRV-1 Boat	600'		Moored at East end of dock.
SRV-2 Boat	600'		Moored at East end of dock.

APPENDIX C – RESPONSE EQUIPMENT AND RESOURCES

<u>NRCES SORBENTS ON SITE AS OF JULY 15TH, 2008</u>			
TYPE	SIZE	PACKAGE QTY.	LOCATION
<u>SHORELINE PROTECTION</u>			
Sorbent Boom	5'	8 bales	Trailer 3082
Sorbent Boom	8'	3 bales	Trailer 3082
Sorbent Pom-Pom		23 bales	Trailer 3082
Sorbent Pads		7 bales	Trailer 3082
Sorbent Pads	17" x 19"	7 bales	Old Pump House
Sorbent Boom	8"	4 bales	Yard Container

C.2 OFF-SITE RESPONSE CONTRACTOR RESOURCES

The Refinery has the following contractor under contract for spill response who provides equipment and personnel resources available to respond to all of the required planning volume tiers.

National Response Corporation (NRCES)

Contract information and listing of their resources are provided in this section. Non-cascadable resources for the OSRO would be as determined by the State and Federal Authorities.

Refer to the following summary for the contractors response services under contract to the Refinery.

CONTRACTOR OIL RESPONSE CAPABILITY SUMMARY

CONTRACTOR	ONWATER	ONSHORE	GROUP V	SHALLOW WATER
NRCES	X	X	X	X
Phillips Services Corp.		X	X	

Refer to the Response Contractor Application on file with California Office of Spill Prevention and Response for a detailed listing of response resources and locations.

APPENDIX C – RESPONSE EQUIPMENT AND RESOURCES

**SPILL RESPONSE CONTRACT CERTIFICATION**

National Response Corporation (NRC) certifies that **the Clients listed in Schedule 1** have "ensured, by contract or other approved means, the availability of private personnel and equipment necessary to respond, to the maximum extent practicable, to a worst case discharge" for the below named Facilities. NRC agrees that Clients have the right to name NRC and its resources, including those within its Independent Contractor Network (ICN) for Oil Pollution Act of 1990 (OPA) coverage for the below named Facilities. NRC has filed its Spill Response Plan Appendix with the U.S. Coast Guard, and that Clients are authorized to reference this Appendix in their Facility Response Plan. This Appendix presently covers all ports in the U.S. East, West and Gulf Coasts, Great Lakes and the U.S. Caribbean. NRC reserves the right to rescind this authorization in the event of termination of its contractual arrangements with the Facilities.

Entered Facilities

(PER SCHEDULE ATTACHED)

Acknowledged by:
National Response Corporation

Date: September 6, 2007

A handwritten signature in black ink, appearing to be "J. H. [unclear]", written over a horizontal line.

President, NRC

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APPENDIX C – RESPONSE EQUIPMENT AND RESOURCES



Covered Facilities:

Diamond Shamrock Refining and Marketing Company

- McKee-Stewart Pipeline System
- McKee-ConCarb Pipeline
- Turpin Terminal

Michigan Reutilization, LLC

- Arkansas City Asphalt Terminal

The Premcor Pipeline Co.

- Delaware City Pipeline
- Collierville Crude Pipeline
- Sun to Lucas Crude Pipeline
- Lucas to Valero Port Arthur Refinery Crude Pipeline
- Valero Lucas Terminal to Teppco Terminal Products Pipeline
- Valero Port Arthur Refinery to Premcor Pipeline's Lucas Terminal Products Pipeline
- Valero Port Arthur Refinery to Port Arthur Products System Terminal Products Pipeline
- Port Arthur Products System Terminal to Colonial and Explorer Products Pipeline
- Memphis Airport Jet Line
- East Chicago Pipeline
- Hammond Pipeline
- Shorthorn Products Pipeline
- Fannett 4" LPG Pipeline
- Fannett 6" LPG Pipeline
- Fannett 8" LPG Pipeline
- Armdel Crude Pipeline
- Hammond Terminal
- Collierville Terminal
- Fannett Terminal
- Lucas Terminal
- El Vista Tankage
- Port Arthur Products System (PAPS) Joint Interest
- St. James Tankage

The Premcor Refining Group Inc.

- Delaware City Truck Rack
- Memphis Truck Rack

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APPENDIX C – RESPONSE EQUIPMENT AND RESOURCES



- Riverside Terminal
- Riverside Dock
- West Memphis Terminal
- Alsip Terminal
- Hartford Terminal
- Memphis Refinery
- Delaware City Refinery
- Port Arthur Refinery

The Shamrock Pipe Line Corporation

- Texas Gathering System
- Perryton Station
- Waka Station
- Coble Truckhaul
- Farnsworth Truckhaul
- Hitchland Truckhaul
- Hooker Truckhaul
- Clawson Truckhaul
- Merten #1 Truckhaul
- Merten #2 Truckhaul
- Miles Truckhaul
- Piper #1 Truckhaul
- Piper #2 Truckhaul
- Tubbs Truckhaul

Sigmor Corporation

- Refugio Pipeline
- Sigmor Natural Gas Pipeline

Valero Marketing and Supply Company

- Corpus Christi Asphalt Blending Plant
- Houston Asphalt Blending Plant
- Louisiana (St. James) Asphalt Blending Plant

Valero Refining Company – Oklahoma

- Oklahoma-Texas Ardmore Gas Pipeline
- Ardmore Refinery

Valero Terminals and Distribution Company (f/n/a, Emerald Pipe Line Corporation)

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APPENDIX C – RESPONSE EQUIPMENT AND RESOURCES



- Turpin Refined Products Pipeline

Valero Refining-Texas, L.P.

- Bill Greehey Refinery East & West
- Houston Refinery
- Texas City Refinery

Diamond Shamrock Refining Company, L.P.

- Three Rivers Refinery
- McKee Refinery

Ultramar Inc.

- Wilmington Refinery

Valero Refining Company – California

- Benicia Refinery
- Benicia Asphalt Plant
- Wilmington Asphalt Plant

Valero Refining Company - Louisiana

- Krotz Springs

Valero Refining Company - New Orleans, L.L.C.

- St. Charles Refinery

Valero Refining Company - New Jersey

- Paulsboro

Lima Refining Company

- Lima

Port Arthur Coker Company LP**Valero Refining - Aruba N.V.**

- Aruba Refinery

Valero Coker Company - Aruba N.V.**Ultramar Ltée/Ultramar Ltd.**

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APPENDIX C – RESPONSE EQUIPMENT AND RESOURCES



- Jean Gaullin Refinery

Term: 5 years from the effective date of the Agreement, unless earlier terminated in accordance with the provisions of this Agreement.

Client:

Diamond Shamrock Refining and Marketing Company

- McKee-Stewart Pipeline System
- McKee-ConCarb Pipeline
- Turpin Terminal

Michigan Reutilization, LLC

- Arkansas City Asphalt Terminal

The Premcor Pipeline Co.

- Delaware City Pipeline
- Collierville Crude Pipeline
- Sun to Lucas Crude Pipeline
- Lucas to Valero Port Arthur Refinery Crude Pipeline
- Valero Lucas Terminal to Teppco Terminal Products Pipeline
- Valero Port Arthur Refinery to Premcor Pipeline's Lucas Terminal Products Pipeline
- Valero Port Arthur Refinery to Port Arthur Products System Terminal Products Pipeline
- Port Arthur Products System Terminal to Colonial and Explorer Products Pipeline
- Memphis Airport Jet Line
- East Chicago Pipeline
- Hammond Pipeline
- Shorthorn Products Pipeline
- Fannett 4" LPG Pipeline
- Fannett 6" LPG Pipeline
- Fannett 8" LPG Pipeline
- Amdel Crude Pipeline
- Hammond Terminal
- Collierville Terminal
- Fannett Terminal
- Lucas Terminal
- El Vista Tankage

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APPENDIX C – RESPONSE EQUIPMENT AND RESOURCES



- Port Arthur Products System (PAPS) Joint Interest
- St. James Tankage

The Premcor Refining Group Inc.

- Delaware City Truck Rack
- Memphis Truck Rack
- Riverside Terminal
- Riverside Dock
- West Memphis Terminal
- Alsip Terminal
- Hartford Terminal
- Memphis Refinery
- Delaware City Refinery
- Port Arthur Refinery

The Shamrock Pipe Line Corporation

- Texas Gathering System
- Perryton Station
- Waka Station
- Coble Truckhaul
- Farnsworth Truckhaul
- Hitchland Truckhaul
- Hooker Truckhaul
- Clawson Truckhaul
- Merten #1 Truckhaul
- Merten #2 Truckhaul
- Miles Truckhaul
- Piper #1 Truckhaul
- Piper #2 Truckhaul
- Tubbs Truckhaul

Sigmor Corporation

- Refugio Pipeline
- Sigmor Natural Gas Pipeline

Valero Marketing and Supply Company

- Corpus Christi Asphalt Blending Plant
- Houston Asphalt Blending Plant
- Louisiana (St. James) Asphalt Blending Plant

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APPENDIX C – RESPONSE EQUIPMENT AND RESOURCES

**Valero Refining Company – Oklahoma**

- Oklahoma-Texas Ardmore Gas Pipeline
- Ardmore Refinery

Valero Terminating and Distribution Company (f/n/a, Emerald Pipe Line Corporation)

- Turpin Refined Products Pipeline

Valero Refining-Texas, L.P.

- Bill Greehey Refinery East & West
- Houston Refinery
- Texas City Refinery

Diamond Shamrock Refining Company, L.P.

- Three Rivers Refinery
- McKee Refinery

Ultramar Inc.

- Wilmington Refinery

Valero Refining Company – California

- Benicia Refinery
- Benicia Asphalt Plant
- Wilmington Asphalt Plant

Valero Refining Company - Louisiana

- Krotz Springs

Valero Refining Company - New Orleans, L.L.C.

- St. Charles Refinery

Valero Refining Company - New Jersey

- Paulsboro

Lima Refining Company

- Lima

Port Arthur Coker Company LP

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APPENDIX C – RESPONSE EQUIPMENT AND RESOURCES



Valero Refining - Aruba N.V.

- Aruba Refinery

Valero Coker Company - Aruba N.V.

Ultramar Ltée/Ultramar Ltd.

- Jean Gaullin Refinery

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APPENDIX C – RESPONSE EQUIPMENT AND RESOURCES

NRCS RESOURCE SUMMARY



Total Containment Boom (ft)	35knts
Total Response Vessels	0
Total Support Vessels	0
Total Skimmer Recovery BPD	131,008
Total Vacuum Truck Recovery BPD	17,087
Total Vacuum Truck Storage BBL	3,095
Total Tank Storage BBL	113,885

APPENDIX C – RESPONSE EQUIPMENT AND RESOURCES

NRC Environmental Resources

Alameda COTP Zone

TRANSPORTATION**LIGHT DUTY TRUCKS (FLAT BEDS AND BELOW)**

LT. VEHICLES TO 1 TON, 2W

ID#	Identification	Specification	Storage	Home Base	Maintained
1010	Truck 3/4T	Ford F250, gas, pickup	East Yard	Alameda	Quarterly
1057	Truck, 1T	Ford F-250, crewcab, fuel caddy & light bar	East Yard	Alameda	Quarterly
1064	Truck, 3/4T	Ford F-250, fuel caddy	East Yard	Alameda	Quarterly
1065	Truck, 3/4 T	Ford F250, liftgate, light bar	East Yard	Alameda	Quarterly
1084	Truck, 3/4 T	Ford F-250	East Yard	Alameda	Quarterly
1091	Truck, 3/4 T	Ford F-250	East Yard	Alameda	Quarterly
1108	Truck, 3/4T	Ford F250, pickup, lightbar	Vehicle - D Scott	Alameda	Quarterly
1109	Truck, 3/4 T	Ford F250, x/cab, 2x4	Vehicle - C Eddy	Alameda	Quarterly
1111	Truck, 3/4T	Ford F250, x/cab, 2x4	Vehicle- C Alv	Alameda	Quarterly
1129	Truck, 1T	Ford F-250, crewcab, B Earls	Vehicle-D Ship	Eureka	Quarterly
1131	Vehicle,Support	FORD Explorer, K Paro	Vehicle - K Par.	Alameda	Quarterly
1146	Truck, 1/2T	F-150 Pickup Single Cab 4x2	Vehicle-C Minor	Alameda	Quarterly
1188	Truck, 3/4 T	Ford F-250 Crew Cab 4x2	Vehicle-J Rubio	Alameda	Quarterly
1189	Truck, 3/4 T	Ford F-250 Crew Cab 4x2	Vehicle - M Mark	Alameda	Quarterly
1203	Vehicle,Support	FORD Explorer, Suv	Vehicle	Alameda	Quarterly
1212	Truck 3/4T	Ford F-250 Crew Cab 4x2	Vehicle-E Bra	Alameda	Quarterly
1213	Truck 3/4T	Ford F-250 Crew Cab 4x2	Vehicle - S Kuipers	Alameda	Quarterly
1222	Van	Ford E-350	Vehicle - M Roth	Eureka	Quarterly

LT. VEHICLES TO 1 TON, 4W

ID#	Identification	Specification	Storage	Home Base	Maintained
1074	Truck, 1 T	Ford F350, x/cab, 4x4, fuel cell	East Yard	Alameda	Quarterly
1080	Truck, 1 T	Ford F350, crewcab, 2x4	East Yard	Alameda	Quarterly
1082	Truck, 1 T	Ford F350, crewcab, 4x4, fuel caddy	East Yard	Alameda	Quarterly
1110	Truck, 1 T	Ford F350, x/cab, 4x4,	Vehicle - D DellOs	Alameda	Quarterly
1114	Truck, 1T	Ford F350, x/cab, 4x4	Vehicle - J Har	Alameda	Quarterly
1132	Truck	Ford F-350, crewcab	Vehicle - B Island	Alameda	Quarterly
1175	Truck, 1T	Ford F-350, crewcab	Vehicle - J Colin	Alameda	Quarterly
1190	Truck, 1 T	Ford F-350, crewcab, 4x4	Vehicle - C San.	Alameda	Quarterly

SUPER DUTY/UTILITY/BOX BED

ID#	Identification	Specification	Storage	Home Base	Maintained
1009	Truck	Ford F350, flatbed, liftgate	East Yard	Alameda	Quarterly
1118	Truck, 2T, 4 W	Ford F550, 4x4 crew cab, flatbed w/gate	Eureka	Eureka	Quarterly
1136	Truck	Ford F450 Utility Truck	Vehicle John S.	Alameda	Quarterly
1137	Truck, Flatbed	Ford F550	East Yard	Alameda	Quarterly
1138	Truck, 2T	Ford F550	East Yard	Alameda	Quarterly
1168	Truck, Flatbed	INTL	East Yard	Alameda	Quarterly
1174	Truck - Utility	Ford F450 Utility Truck w/140cfm comp	Vehicle - A Grij.	Alameda	Quarterly
1177	Truck, 2T, 4 W	Ford 550, 4x4, crew cab	East Yard	Alameda	Quarterly
1182	Truck, 1 T, 4 W	Ford 550, 4x4, crew cab	East Yard	Alameda	Quarterly
2100	Truck, INTL	Loadstar 700, water truck	East Yard	Alameda	Quarterly
1186	Truck, Flatbed	Ford F550	East Yard	Alameda	Quarterly
1202	Truck, Flatbed	Ford F550 4x4	East Yard	Alameda	Quarterly
1215	Truck, Flatbed	Ford F550	East Yard	Alameda	Quarterly
1219	Truck, Pickup	Ford F550	Vehicle - D Ship	Eureka	Quarterly
1224	Truck, Flatbed	Ford F550	East Yard	Alameda	Quarterly

HEAVY DUTY TRUCKS/TRAILERS

HEAVY TRUCKS/TRACTORS (REQUIRING CDL/DOT)

ID#	Identification	Specification	Storage	Home Base	Maintained
1198	Bobtail, Box Van	Freightliner	West Yard	Alameda	Quarterly
1221	Bobtail, Box Van	Freightliner	East Yard	Alameda	Quarterly
2095	Bobtail, Box Van	International	East Yard	Alameda	Quarterly
2098	Bobtail, Box Van	Freightliner	West Yard	Alameda	Quarterly
2027	Bobtail, Box Van	Mack 24' Box Van	West Yard	Alameda	Quarterly
2005	Crane Truck	GMC, 5 T	West Yard	Alameda	Quarterly
2017	Tractor	Freightliner	West Yard	Alameda	Quarterly
2040	Tractor	Freightliner	West Yard	Alameda	Quarterly
2042	Tractor	Freightliner	West Yard	Alameda	Quarterly
2050	Truck	Mack, bobtail	West Yard	Alameda	Quarterly

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APPENDIX C – RESPONSE EQUIPMENT AND RESOURCES

2056	Truck, ER Van w/genset	Freightliner/Gruman	East Yard	Alameda	Quarterly
2079	Tractor	Freightliner	West Yard	Alameda	Quarterly
2084	Tractor	Freightliner	West Yard	Alameda	Quarterly
2090	Tractor	Freightliner	West Yard	Alameda	Quarterly
2102	Tractor	Peterbilt	West Yard	Alameda	Quarterly
2104	Tractor	Freightliner	West Yard	Alameda	Quarterly
2106	Tractor	Peterbilt	West Yard	Alameda	Quarterly
2130	Tractor	Freightliner	West Yard	Alameda	Quarterly
2501	Tractor	Freightliner	West Yard	Alameda	Quarterly

DUMP/BIN TRUCKS

ID#	Identification	Specification	Storage	Home Base	Maintained
2051	Dump Truck	Freightliner	West Lot	Alameda	Quarterly
2124	Dump Truck	Freightliner	West Lot	Alameda	Quarterly
2061	Cabover Roll-Off Truck (Bin Truck)	Freightliner (WITH 2061)	West Lot	Alameda	Quarterly
2116	Roll-Off Truck (Bin Truck)	Freightliner	West Lot	Alameda	Quarterly
2068	Roll-Off Trailer	ESP	West Lot	Alameda	Use/Quarterly
3178	Roll-Off Trailer	ESPMF	West Lot	Alameda	Use/Quarterly
2061A	Roll-Off Trailer	SPCNS	West Lot	Alameda	Use/Quarterly
3252	Roll-Off Trailer	2005 Dragon	West Lot	Alameda	Use/Quarterly

FLATBED/UTILITY/CARGO

ID#	Identification	Specification	Storage	Home Base	Maintained
3025	Trailer, drum transport	30' Comet	West Lot	Alameda	Quarterly
3082	Trailer, Shoreline Response	45' Trailmobile - Warehouse Support	East Lot	Alameda	Quarterly
3103	Trailer	18' Big-Tex - Containment boom	East Lot	Alameda	Quarterly
3106	MTR Trailer	skiff, boom, drums, PPE	West Lot	Alameda	Quarterly
3107	Trailer	20' (old horse trailer) - plug trailer	East Lot	Alameda	Quarterly
3110	Trailer - Backhoe	26' Trailmobile - Backhoe Trailer	East Lot	Alameda	Quarterly
3115	Trailer, Incident Command	45' Trailmobile - Mobile Command Center	East Lot	Alameda	Quarterly
3119	Trailer, Sorbents	45' Trailmobile, holds sorbents	East Lot	Alameda	Quarterly
3127	Trailer, boom	Big Tex, 20'	Warehouse	Eureka	Quarterly
3146	Trailer (Cage)	Kepner Boom	East Lot	Alameda	Quarterly
3147	Trailer, drum transport	45' Drum Transport	West Lot	Alameda	Quarterly
3167	Trailer	24' ER Trailer - Fully Loaded Response	East Lot	Alameda	Quarterly
3169	Trailer - Emergency Response	24' ER Trailer - Fully Loaded Response	Warehouse	Eureka	Quarterly
3170	Trailer, utility	Am. Marine Containment boom	West Lot	Alameda	Quarterly
3173	45' Trailer	45' Utility Trailer	West Lot	Alameda	Quarterly
3174	Trailer - Emergency Response	24' Interstate ER Trailer Fully Loaded	Yard	Sacramento	Quarterly
3175	Trailer - 14' dumping	Carson 14' Dump Trailer	East Lot	Alameda	Quarterly
3179	Trailer - Skimmer	24' ER Trailer - empty support	East Lot	Alameda	Quarterly
3180	Trailer	18' Big-Tex - utility	East Lot	Alameda	Quarterly
3197	Trailer	2002 ESPM	Unknown	Unknown	Quarterly
3198	Trailer	30' Team spirit - Confined Space	East Lot	Alameda	Quarterly
3239	Trailer	21" Kepner Boom	West Lot	Alameda	Quarterly
3270	24' Trailer, Mirage	21" Kepner Boom	West Lot	Alameda	Quarterly
3271	24' Trailer, Mirage	21" Kepner Boom	West Lot	Alameda	Quarterly
3288	48' Dry Van	1986 Dorsey Boom	West Lot	Alameda	Quarterly
3289	48' Dry Van	1987 Trailmobile Drum Run	West Lot	Alameda	Quarterly
5045	Trailer, 26' Beaver Trailer	Containment boom	East Lot	Alameda	Quarterly
6345	Trailer	Bobcat, Skidsteer Trailer	West Lot	Alameda	Quarterly
N139	40' Flatbed	48'x8.5' Lufkin flatbed, Containment boom	West Lot	Alameda	Quarterly
N309	40' Flatbed	48'x8.5' Lufkin flatbed		Alameda	Quarterly
N342	40' Flatbed	hauls drums	East Lot	Alameda	Quarterly
N342	40' Flatbed	hauls aquaguard & powerpack	East Lot	Alameda	Quarterly
N353	40' Flatbed	48'x8.5' Lufkin flatbed	East Lot	Alameda	Quarterly
N364	40' Flatbed	48'x8.5' Lufkin flatbed, Containment boom	East Lot	Alameda	Quarterly
N373	40' Flatbed	hauls fastflo skimmer & powerpack	Selby rail term	Selby	Quarterly
N373	40' Flatbed	48'x8.5' Lufkin flatbed	East Lot	Alameda	Quarterly
N387	20' boom trailer	hauls 21" Kepner Boom	Sacramento	Sacramento	Quarterly
N388	20' boom trailer	21" Kepner Boom	Stockton	Stockton	Quarterly
N402	40' semi trailer	21" Kepner Boom	Selby	Selby	Quarterly
N403	40' semi trailer	21" Kepner Boom	Alameda	Alameda	Quarterly
N407	Semi trailer	21" Kepner Boom	Yard	Eureka	Quarterly
N431	ST Services, 40' semi trailer	21" Kepner Boom	Selby	Selby	Quarterly
N433	40' semi trailer	21" Kepner Boom	East Lot	Alameda	Quarterly
N509	40' semi trailer	45' trailer	East Lot	Alameda	Quarterly
N606	East Lot, 45' Trailer # 606	48' trailer, 34' Boom	East Lot	Alameda	Quarterly
N607	East Lot, 45' Trailer # 607	48' trailer	East Lot	Alameda	Quarterly
N608	East Lot 45' Trailer # 608	48' trailer, drum transport	East Lot	Alameda	Quarterly
N614	ST Services, 40' Trailer	21" Kepner Boom	Martinez	Martinez	Quarterly
N706	24' Trailer, Wells Cargo	21" Kepner Boom	West Lot	Alameda	Quarterly
N707	24' Trailer, Wells Cargo	UTILITY TRAILER - EMPTY	West Lot	Alameda	Quarterly
N708	24' Trailer, Wells Cargo	21" Kepner Boom	West Lot	Alameda	Quarterly
N709	24' Trailer, Wells Cargo	21" Kepner Boom	West Lot	Alameda	Quarterly
N710	24' Trailer, Wells Cargo	21" Kepner Boom	West Lot	Alameda	Quarterly
N210387	20' Sea Container	holds WB101 w/trailer	Port of Sacramento	Sacramento	Use/Quarterly

APPENDIX C – RESPONSE EQUIPMENT AND RESOURCES

NRC Environmental Resources**Alameda COTP Zone****ROLL OFF BINS**

ID#	Identification	Specification	Each (bbl)	Total (bbl)	Storage	Home Base
3129	Roll off bin	20' ESP	20 yard	20 yard	West Lot	Alameda
3130	Roll off bin	20' ESP	20 yard	20 yard	West Lot	Alameda
3131	Roll off bin	20' ESP	20 yard	20 yard	West Lot	Alameda
3132	Roll off bin	20' ESP	20 yard	20 yard	West Lot	Alameda
3136	Roll off bin	20' ESP	20 yard	20 yard	West Lot	Alameda
3137	Roll off bin	20' ESP	20 yard	20 yard	West Lot	Alameda
3138	Roll off bin	40' ESP	40 yard	20 yard	West Lot	Alameda
3139	Roll off bin	40' ESP	40 yard	20 yard	West Lot	Alameda
3141	Roll off bin	20' ESP	20 yard	20 yard	West Lot	Alameda
3142	Roll off bin	20' ESP	20 yard	20 yard	West Lot	Alameda
3143	Roll off bin	20'	20 yard	20 yard	West Lot	Alameda
3148	Roll off bin	20'	20 yard	21 yard	West Lot	Alameda
3149	Roll off bin	20'	20 yard	22 yard	West Lot	Alameda
3150	Roll off bin	20'	20 yard	20 yard	West Lot	Alameda
3151	Roll off bin	20'	20 yard	20 yard	West Lot	Alameda
3156	Roll off bin	20'	21 yard	21 yard	West Lot	Alameda
3157	Roll off bin	20'	21 yard	21 yard	West Lot	Alameda
3158	Roll off bin	20'	21 yard	21 yard	West Lot	Alameda
3159	Roll off bin	20'	20 yard	20 yard	West Lot	Alameda
3160	Roll off bin	20'	20 yard	20 yard	West Lot	Alameda
3161	Roll off bin	20'	20 yard	20 yard	West Lot	Alameda
3183	Roll off bin	20'	20 yard	20 yard	West Lot	Alameda
3184	Roll off bin	20'	20 yard	20 yard	West Lot	Alameda
3185	Roll off bin	20'	20 yard	20 yard	West Lot	Alameda
3186	Roll off bin	20'	20 yard	20 yard	West Lot	Alameda
3187	Roll off bin	20'	20 yard	20 yard	West Lot	Alameda
3191	Roll off bin	20'	20 yard	20 yard	West Lot	Alameda
3192	Roll off bin	20'	20 yard	20 yard	West Lot	Alameda
3193	Roll off bin	20'	20 yard	20 yard	West Lot	Alameda
3208	Roll off bin	20'	20 yard	20 yard	West Lot	Alameda
3209	Roll off bin	20'	20 yard	20 yard	West Lot	Alameda
3210	Roll off bin	20'	20 yard	20 yard	West Lot	Alameda
3211	Roll off bin	20'	20 yard	20 yard	West Lot	Alameda
3213	Roll off bin	20'	20 yard	20 yard	West Lot	Alameda
3214	Roll off bin	20'	20 yard	20 yard	West Lot	Alameda
3215	Roll off bin	20'	20 yard	20 yard	West Lot	Alameda
3216	Roll off bin	20'	20 yard	20 yard	West Lot	Alameda
3217	Roll off bin	20'	20 yard	20 yard	West Lot	Alameda
3218	Roll off bin	20'	20 yard	20 yard	West Lot	Alameda
3219	Roll off bin	20'	20 yard	20 yard	West Lot	Alameda
3220	Roll off bin	20'	20 yard	20 yard	West Lot	Alameda
3243	Roll off bin	20'	20 yard	20 yard	West Lot	Alameda
3244	Roll off bin	20'	20 yard	20 yard	West Lot	Alameda
3245	Roll off bin	20'	20 yard	20 yard	West Lot	Alameda
3246	Roll off bin	20'	20 yard	20 yard	West Lot	Alameda
3247	Roll off bin	20'	20 yard	20 yard	West Lot	Alameda
3248	Roll off bin	20'	20 yard	20 yard	West Lot	Alameda
3249	Roll off bin	20'	20 yard	20 yard	West Lot	Alameda
3250	Roll off bin	20'	20 yard	20 yard	West Lot	Alameda

Total bins 41

Printed on 9/11/2007

Revised 9/11/2007

Alameda COTP Zone

VAC TRUCKS AND TANKAGE

VACUUM TRUCKS/TRAILERS

ID#	Identification	Specification	Recovery BPD	Efficiency	EDRC	Liquid Storage bbls	Storage	Horse Base	Maintained	Date Acquired
2048	Vac Truck	Mack, 70 bbl	3,430	10%	363	70	West yard	Alameda	User/Quarterly	N/A
2085	Vacuum Trailer	Thompson, 120bbs	3,430	20%	696	120	West yard	Alameda	User/Quarterly	3/1/05
2091	Jetier	FORD TO BBL	3,430	10%	363	70	West yard	Alameda	Quarterly	4/1/01
2095	Jetier	Vector 2110	3,430	10%	363	70	West yard	Alameda	Quarterly	4/2/01
2099	Vac Truck	PRHT 70 bbl	3,430	10%	363	70	West yard	Alameda	Quarterly	4/3/01
2091	Gardner	FORD TO BBL	3,430	10%	363	70	West yard	Alameda	Quarterly	6/31/04
2112	Vac truck	Kennworth 80 bbl.	3,430	10%	363	80	West yard	Alameda	Quarterly	3/26/06
2128	Vac Truck	International #160 T5884	3,430	?	?	75	West yard	Alameda	Quarterly	7/17/07
3015	Vacuum Trailer	120 bbl	3,430	20%	696	120	West yard	Alameda	User/Quarterly	N/A
3028	Vacuum Trailer	Martin 120bbls	3,430	20%	696	120	West yard	Alameda	User/Quarterly	12/1/92
3030	Vacuum Trailer	Martin 120bbls	3,430	20%	696	120	West yard	Alameda	User/Quarterly	12/1/92
3242	Vacuum Trailer	Martin 120bbls, stainless steel	3,430	20%	696	120	West yard	Alameda	User/Quarterly	12/1/92
3254	Vacuum Trailer	Martin 120bbls, stainless steel	3,430	20%	696	120	West yard	Alameda	User/Quarterly	12/1/92
3251	Vacuum Trailer	Martin 120bbls, Carbon Steel	3,430	20%	696	120	West yard	Alameda	User/Quarterly	10/31/05
3256	Vacuum Trailer	Premtec 120bbls, Carbon Steel	3,430	20%	696	120	West yard	Alameda	User/Quarterly	3/15/06
SVT1	Vacuum Trailer	120 bbl	3,430	20%	696	120	Vendor/CV	Bakersfield	Vendor	N/A
SVT1	Vacuum Trailer	120 bbl	3,430	20%	696	120	Vendor/CV	Bakersfield	Vendor	N/A
SVT1	Vacuum Trailer	120 bbl	3,430	20%	696	120	Vendor/LB	Berkeley	User/Monthly	N/A
SVT1	Vacuum Trailer	120 bbl	3,430	20%	696	120	Vendor/CV	Bakersfield	Vendor	N/A
SVT1	Vacuum Trailer	120 bbl	3,430	20%	696	120	Vendor/LB	Berkeley	User/Monthly	N/A
SVT1	Vacuum Trailer	120 bbl	3,430	20%	696	120	Vendor/GS	Richmond	Vendor	N/A
SVT1	Vacuum Trailer	Various, 120 bbls	3,430	20%	696	120	Vendor/CV	Bakersfield	Vendor	N/A
SVT1	Vacuum Trailer	Various, 120 sbb	3,430	20%	696	120	Vendor/CV	Bakersfield	Vendor	N/A
SVT1	Vacuum Trailer	Various, 120 sbb	3,430	20%	696	120	Vendor/CV	Bakersfield	Vendor	N/A
SVT1	Vacuum Trailer	Various, 120 sbb	3,430	20%	696	120	Vendor/CV	Bakersfield	Vendor	N/A
SVT1	Vacuum Trailer	Various, 120 sbb	3,430	20%	696	120	Vendor/CV	Bakersfield	Vendor	N/A
SVT1	Vacuum Trailer	Various, 120 sbb	3,430	20%	696	120	Vendor/CV	Bakersfield	Vendor	N/A
SVT1	Vacuum Trailer	Various, 120 sbb	3,430	20%	696	120	Vendor/CV	Bakersfield	Vendor	N/A
SVT1	Vacuum Trailer	Various, 70bbs	3,430	20%	363	70	Vehicle	Alameda	Vendor	N/A
SVT1	Vacuum Truck	Foghtliner, 70 bbl	3,430	10%	363	70	Vendor/TD	Alameda	User/Quarterly	N/A

Total ECRC	17,087
Total Liquid Storage BBL	3,099

TANKAGE / BARGES

ID#	Identification	Specification	Each (bbl)	Total (bbl)	Efficiency	Decorated	Storage	Home Base	Maintained	Inland/Ocean
PB1	Barge Tank	1/8 Pebble Beach-24603	24,600	24,603	100%	24,800	Harley Marine Dock	Alameda	Use/Yearly	Green
N115	Barge Tankage	American Eagle Portable Barge Set #115/116	238	238	100%	238	Martinez Marina, Deck B, moorage	Martinez	Use/Yearly	Inland
N301	Barge Tankage	American Eagle Portable Barge Set #301/302	238	238	100%	238	Sugar Deck, moorage	Richmond	Use/Yearly	Inland
FB1	Barge Tankage	FDH 35-1	35316	35316	50%	17,858	Moorage, Foss Maritime	Richmond	Per ABS	Ocean
FB1	Barge Tankage	FDH 35-2	35316	35316	50%	17,858	Moorage, Foss Maritime	Richmond	Per ABS	Ocean
FB1	Barge Tankage	FCGS 248 w/6x15	25,000	25,000	50%	12,500	Moorage, Foss Maritime	Richmond	Per ABS	Ocean
FB1	Barge Tankage	F185-P3, 185x50x12	11,500	11,500	50%	5,750	Moorage, Foss Maritime	Richmond	Per ABS	Ocean
FB1	Barge Tankage	BMC-15	15,000	15,000	50%	7,500	Moorage, Foss Maritime	Richmond	Per ABS	Ocean
TB1	Deck Barge	110' x 25'	N/A	N/A	N/A	0	Moorage	Alameda	Quarterly	Inland
TB2	Deck Barge	110' x 25'	N/A	N/A	N/A	0	Moorage	Alameda	Use/Quarterly	Inland
TB3	Deck Barge	130' x 50'	N/A	N/A	N/A	0	Moorage	Alameda	Use/Quarterly	Inland
TB1	Spud Barge	48' x 16'	N/A	N/A	N/A	0	Moorage	Alameda	Use/Monthly	Inland
TB2	Spud Barge	80' x 32'	N/A	N/A	N/A	0	Moorage	Alameda	Vendor	Inland
NRVCR3	Barge Tankage	SWOB 39 w/2,500/Marco	1,887	5,000	50%	5,000	Foss Maritime	Richmond	Per ABS	Ocean
NRC-4	Bladder Tank	Dracone Canflex	100	100	100%	100	EUREKA	EUREKA	Use/Yearly	Ocean
NRC-5	Bladder Tank	Dracone Canflex	100	100	100%	100	EUREKA	EUREKA	Use/Yearly	Ocean
NRC-11	Bladder Tank	Dracone Canflex	100	100	100%	100	Subed trailer # 342	Alameda	Use/Yearly	Ocean
NRC-9	Bladder Tank	Dracone Canflex	100	100	100%	100	Martinez Marina, Portable Barge Set	Martinez	Use/Yearly	Ocean
NRC-7	Bladder Tank	Dracone Canflex	100	100	100%	100	Sancoa Deck	Eureka	Use/Yearly	Ocean
NRC-6	Bladder Tank	Dracone Canflex	100	100	100%	100	ST Services, Subed trailer #373	Selby	Use/Yearly	Ocean
NB10	Bladder Tank	Dracone Canflex	100	100	100%	100	TracTide Marine, Subed trailer #364	Port Huancine	Use/Yearly	Ocean
NB10	Bladder Tank	Dracone Canflex	100	100	100%	100	OSRV Patrol II	Fort Beach	Use/Yearly	Ocean
B11	Portable Tank	Baker, 15 1/2hr response tanks	155	1,585	50%	775	Vendor	Pittsburg	Vendor	Inland
B11	Portable Tank	Baker, 35 1/2hr response tanks	500	15,000	50%	7,500	Vendor	Pittsburg	Vendor	Inland
B11	Portable Tank	Baker, 50 24hr response tanks	500	25,000	50%	12,500	Vendor	Pittsburg	Baker	Inland
B11	Portable Tank	Baker, 7 24hr response tanks	155	1,585	50%	543	Vendor	Pittsburg	Baker	Inland
OSRV1	Tankage	On board tankage	625	625	100%	625	OSRV NRC, Columbia, Simpson Dock	Eureka	Use/Yearly	Ocean

Total Derated GGL	113.885
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APPENDIX C – RESPONSE EQUIPMENT AND RESOURCES

DECONTAMINATION / SALVAGE

2", 3" DIAPHRAM PUMPS

ID#	Identification	Specification	Capacity/Speed	Storage	Home Base	Maintained	Date Acquired
4142	Pump, air diaphragm	Wilden 3", M-15	240 gpm	Yard	Eureka	Each Use	3/19/1999
3122	Pump, air diaphragm (8)	Wilden 3", M-15	240 gpm	East Yard	Alameda	Use/Quarterly	12/1/1999
3124	Pump, air diaphragm (10)	Wilden/Buna 1 1/2" - 2", M-8	158gpm	East Yard	Alameda	Each Use	12/1/1999
4147	Pump, air diaphragm, chemical (7)	Wilden 1 1/2" - 3"	N/A	Cont. # 5	Alameda	Use/Annual	8/1/2000
4177	Pump, stainless steel air diaphragm	Coker, 2"	158gpm	East Yard	Alameda	Each Use	8/1/2001

2", 3" TRASH PUMPS

ID#	Identification	Specification	Capacity/Speed	Storage	Home Base	Maintained	Date Acquired
4167-6	Pump, trash w/hoses (1)	Multiquip, gas, Honda, 3"	340 gpm	East Yard	Alameda	Use/Quarterly	10/1/1998
	Pump, trash w/hoses (1)	Honda 3"	340 gpm	East Yard	Eureka	Use/Quarterly	10/1/1998
4167-4	Pump, trash w/ hoses(1)	Multiquip, gas, Honda, 3"	340 gpm	East Yard	Alameda	Use/Quarterly	
4167-7	Pump, trash w/ hoses(1)	Multiquip, gas, 3"	340 gpm	East Yard	Alameda	Use/Quarterly	2/15/2005
	Pump, trash w/hose (1)	4"		East Yard	Alameda	Use/Quarterly	
4139-3	Pump, trash w/hoses (5)	Yanmar, Gas, 2"	240 gpm	East Yard	Alameda	Use/Quarterly	10/1/1998
4139-5	Pump, trash w/hoses (1)	AC-2, gas, Self priming pump 2"	240 gpm	East Yard	Alameda	Use/Quarterly	
A4140	Pump, trash	2" Gas	260 gpm	Yard	Alameda	Use/Quarterly	10/1/1998

DRUM / SKIM / SUBMERSIBLE PUMPS

ID#	Identification	Specification	Capacity/Speed	Storage	Home Base	Maintained	Date Acquired
4021	Pump, submersible	2.5" Electric	200+ gpm	CSC # 1	Eureka	Use/Annual	1/15/2002
4022	Pump, submersible air	2" Electric	200+ gpm	CSC # 1	Alameda	Use/Annual	1/15/2002
A4026	Pump, Electric	2" Electric	200+ gpm	CSC # 1	Alameda	Use/Annual	1/15/2002
4023	Pump, submersible air (3)	2" Air	200+ gpm	CSC # 1	Alameda	Use/Annual	1/15/2002
A4024	Pump, submersible air (2)	3" Air	300+ gpm	CSC # 1	Alameda	Use/Annual	1/15/2002
A4024	Pump, submersible air (1)	3"		Pt. Molate	Pt. Molate		
A4025	Pump, submersible air (4)	4" Air	400+gpm	CSC # 1	Alameda	Use/Annual	1/15/2002
4092	Pump, drum	VAC-U-MAX 558 DN (3)	N/A	Cont. # 5	Alameda	Use/Annual	1/15/2002
A4093	Pump, Drum (2)	2" Electric Drum Pump	N/A	Cont. # 5	Alameda	Use/Annual	1/15/2002
A4094	Pump, Drum	Single Filter Pump	N/A	Cont. # 5	Alameda	Use/Annual	1/15/2002
A4095	Pump, drum	dual filter, venturi, pneumatic	200 CFM	Cont. # 5	Alameda	Use/Annual	1/15/2002
4151	Pump, skimmer	Fiolex	240 gpm	ER Trailer 3179	Alameda	Use/Annual	1/15/2002
4152	Pump, centrifugal	Hale JP-5	290 gpm	ER Trailer 3179	Alameda	Use/Annual	1/15/2002

PRESSURE WASHERS

ID#	Identification	Specification	Capacity/Speed	Storage	Home Base	Maintained	Date Acquired
5012	Pressure Washer			East Yard	Alameda	Use/Quarterly	
5036	Pressure Washer	MI-T-M 3000 psi, hot/cold, tank, trailer	3000 psi	East Yard	Alameda	Use/Quarterly	10/15/1997
5039	Pressure Washer	Toff, hot/cold, singlewand, 225 tank, 18 HP, trailer	3000 psi	Warehouse	Eureka	Use/Quarterly	
5043	Pressure Washer	MI-T-M 14, 3000 psi, hot/cold trailer	3000 psi	East Yard	Alameda	Use/Quarterly	9/1/1998
5049	Pressure Washer	Portable, 2700 psi, hot	2700psi	East Yard	Alameda	Use/Quarterly	6/1/2000
5055	Pressure Washer	8 gpm, dual wand, 325 g tank	3000 psi	East Yard	Alameda	Use/Quarterly	7/26/2004
5056	Pressure Washer	8 gpm, dual wand, 325 g tank	3000 psi	East Yard	Alameda	Use/Quarterly	7/26/2004
5057	Pressure Washer	8 gpm, dual wand, 325 g tank	3000 psi	East Yard	Alameda	Use/Quarterly	7/26/2004
5058	Pressure Washer	8 gpm, dual wand, 325 g tank	3000 psi	East Yard	Alameda	Use/Quarterly	7/26/2004
5059	Pressure Washer	5 gpm, single wand, 325 g tank	5000 psi	East Yard	Alameda	Use/Quarterly	7/26/2004
5076	Pressure Washer	5 gpm, dual wand, 325 g. tank	5000 psi	East Yard	Alameda	Use/Quarterly	1/6/2006
5077	Pressure Washer	5 gpm, dual wand, 325 g. tank	5000 psi	East Yard	Alameda	Use/Quarterly	1/6/2006

COMPRESSORS

ID#	Identification	Specification	Capacity/Speed	Storage	Home Base	Maintained	Date Acquired
5053	Compressor	185 CFM	185 CFM	East Yard	Alameda	Use/Quarterly	5/10/04
7021	Compressor	185 CFM, Sulair	185 CFM	East Yard	Alameda	Use/Quarterly	10/15/1997
7104	Compressor	375 CFM	375 CFM	Trailer #3082	Alameda	Use/Quarterly	8/1/2000
7105	Compressor	15.6CFM, Empla, Portable	15.6CFM	East Yard	Alameda	Use/Quarterly	6/1/2000
7170	Compressor	185 CFM Diesel Compressor	185 CFM	East Yard	Alameda	Use/Quarterly	10/27/05
7171	Compressor	185 CFM Diesel Compressor	185 CFM	East Yard	Alameda	Use/Quarterly	10/27/05
7172	Compressor	185 CFM Diesel Compressor	185 CFM	East Yard	Alameda	Use/Quarterly	10/27/05
7173	Compressor	185 CFM Diesel Compressor	185 CFM	East Yard	Alameda	Use/Quarterly	10/27/05
A7106	Compressor	185 CFM Diesel Compressor	185 CFM	East Yard	Alameda	Use/Quarterly	9/9/04
7151	Compressor	175 CFM, Ingersoll Rand	175 CFM	Yard-2	Alameda	Use/Quarterly	1/15/2002

GENERATORS

ID#	Identification	Specification	Capacity/Speed	Storage	Home Base	Maintained	Date Acquired
3167	Generator	Generac 7kw Generator	7KW	ER Trailer #3167	Alameda	Use/Quarterly	1/15/2002

APPENDIX C – RESPONSE EQUIPMENT AND RESOURCES

7022	Generator	5 KW ProGen	5 KW	East Yard	Alameda	User/Quarterly	1/15/2002
NGEN-100	Generator	5 KW, 120 v, 10 HP	5 KW	ST Services, Trailer # N797	Martinez	User/Quarterly	1/13/2003
7024	Generator	4 KW, Generac	4 KW	East Yard	Eureka	User/Quarterly	1/15/2002
9087	Generator/Light Tower (3)	Light Tower, 4KW, NiteLite	4 KW	East Yard	Alameda	User/Quarterly	1/15/2002
9107	Generator/Light Tower	Light Tower, Genie Model TML	4KW	East Yard	Alameda	User/Quarterly	1/20/2006
9108	Generator/Light Tower	Light Tower, Genie Model TML	4KW	East Yard	Alameda	User/Quarterly	1/20/2006
9109	Generator/Light Tower	Light Tower, Genie Model TML	4KW	East Yard	Alameda	User/Quarterly	1/20/2006
7025	Generator	Enduro XL/C 3.5 KW	3.5 KW	East Yard	Alameda	User/Quarterly	1/16/2002
A7026	Generator	3.5 KW, Multiquip	3.5 KW	East Yard	Alameda	User/Quarterly	1/16/2002
7110	Generator	3KW, Honda	3 KW	East Yard	Eureka	User/Quarterly	6/1/2000
NGEN-101	Generator	2.5KW, Diesel	2.5 KW	Warehouse	Eureka	User/Quarterly	1/15/2002

MISCELLANEOUS ITEMS

ID#	Identification	Specification	Storage	Home Base	Maintained	Date Acquired
3104	ATV trailer	hauls 6 x 4's	East Yard	Alameda	N/A	9/1/1997
A4133-1	Dewalt Cordless Combo Kit	4 Piece 18V Set (DC4KITA)	Damian Ivory	Alameda	N/A	1/19/2006
A4133-2	Dewalt Cordless Combo Kit	4 Piece 18V Set (DC4KITA)	Juan Rubio	Alameda	N/A	1/19/2006
A4133-3	Dewalt Cordless Combo Kit	4 Piece 18V Set (DC4KITA)	East Yard	Alameda	N/A	1/19/2006
A4134	Burning Unit	Oxygen/Acetylene	Cont #10	Alameda	N/A	1/15/2003
A4135	Chipping Gun	Pneumatic	Cont #10	Alameda	N/A	1/15/2003
A4136	Chain Saw	Gas, 18"	Cont #10	Alameda	N/A	1/15/2003
A4137	Chain Saw	Small Drills, Saws, Etc.	Cont #10	Alameda	N/A	1/15/2003
A4138	Sewerall (4)	Various	Cont #10	Alameda	N/A	1/15/2003
A4139	Weed Eaters (3)	Gas, grass cutters	Cont #10	Alameda	N/A	8/15/2004
A4140	Hand Tools	Various	Cont #10	Alameda	N/A	1/15/2003
A4141	Jack Hammer	90 lb. Jack Hammer	Cont #10	Alameda	N/A	2/20/2005
A4143	Concrete Drill	Core Concrete Drill	Cont #10	Alameda	N/A	
A4144-1	Air Spade	Model # 3166	East Yard	Alameda	N/A	
A4144-2	Air Spade	Model # 3182	East Yard	Alameda	N/A	
4998	Truck mounted winch	Electric, 10,000 lb. capacity	East Yard	Alameda	Quarterly	1/15/2003
9067	Wire Feeder - Welder	Portable Welding Unit	East Yard	Alameda	N/A	1/15/2003
9076	ATV	John Deere 6 wheeler Gator	East Yard	Alameda	Quarterly	2/6/1999
9073	ATV	John Deere 6 wheeler Gator	East Yard	Alameda	Quarterly	2/6/1999
9006	ATV	John Deere AMT 600, 5 wheeler	Warehouse	Eureka	Quarterly	1/1/1997
9098	ATV Ranger	Ranger 6 Wheeler	East Yard	Alameda	Quarterly	5/1/2004
9098-1	ATV trailer	hauls ranger	East Yard	Alameda	Quarterly	5/1/2004
9070	Backhoe	John Deere	Trailer #3110	Alameda	Quarterly	1/15/2003
9099	Backhoe	CAT420D, 24" & 36" bucket	East Yard	Alameda	Quarterly	4/5/2005
9093	Bob Cat	1998 Skidsteer Skip Loader	East Yard	Alameda	Quarterly	1/15/2003
9100	SKIDSTEER (Bobcat)	CAT246B, (Grapples & Hammer)	West Yard	Alameda	Quarterly	4/5/2005
9100-1	SKIDSTEER (Attachment)	Grapple Bucket	West Yard	Alameda	Quarterly	4/5/2005
9100-2	SKIDSTEER (Attachment)	Hammer/Concrete Breaker	West Yard	Alameda	Quarterly	4/5/2005
9095	Cargo Deck Crane	7 Ton	FMC	Alameda	Quarterly	1/15/2003
9121	Track Tank Dumper	Morooka Track Dumper	East Yard	Alameda	Quarterly	1/15/2007
9709	Vactor Ramps	15 Ton	East Yard	Eureka	Quarterly	1/15/2003
NBMM-001	Boom Inflator	Leaf Blower	Warehouse	Eureka	Quarterly	1/15/2003
NBMM-003	Boom Inflator (Electric)	Air Driven	Warehouse	Eureka	Quarterly	1/15/2003
NBMM-004	Boom Inflator (Fixed Electric)	Air Driven	Warehouse	Eureka	Quarterly	1/15/2003
NDSM-DD2	Dispersant Applicator 4	N/A	Warehouse	Eureka	Quarterly	1/15/2003
A9711	Multi-Purpose Saw	14" 2-Cycle	Cont #10	Alameda	Quarterly	1/16/2003
A9712	Chop Saw		East Yard	Alameda	Quarterly	1/15/2003
A9712-2	Chop Saw	Model # K950	East Yard	Alameda	Quarterly	
A9715	PLUG (2) - Pipe Plug - 36"	20" - 36" Multi Plug w/20' hose	East Yard	Alameda	Quarterly	3/18/2004
A9716	PLUG (3) - Pipe Plug - 48"	24" - 48" Multi Plug w/20' hose	East Yard	Alameda	Quarterly	3/18/2004
A9717	PLUG (2) - Pipe Plug - 60"	36" - 60" Multi Plug w/20' hose	East Yard	Alameda	Quarterly	3/18/2004
A9714	Sand Blast Machine	Air Driven	East Yard	Alameda	Quarterly	8/15/2004
A9713	Pipe Locator	Radiodetection PDL Rx, T-10 Tx	East Yard	Alameda	Quarterly	1/16/2003

APPENDIX C – RESPONSE EQUIPMENT AND RESOURCES

NRC Environmental Resources
Alameda COTP Zone

BOOM / VESSELS

CONTAINMENT BOOM

ID#	Identification	Specification	Boom Length (ft.)	Home Base	Storage	Inland/Ocean
3103	Boom 42"	42" American Marine	400	Alameda	3103 yard	Inland
E YARD	Boom 42"	42" American Marine	200	Alameda		Inland
3106	Boom 4x8	Kepner	600	Alameda	MTR Trailer # 3106 - East Lot	Inland
1221	Boom 4x8	Kepner	1,400	Alameda	MTR Truck # - West Lot	Inland
3146	Boom 8x12	Kepner (Fence Boom)	2,500	Alameda	Trailer (Cage) # 3146 - West Lot	Inland
3170	Boom 8x12	21" Am. Marine	5,000	Alameda	Trailer # 3170 - West Lot	Inland
FMC	Boom 8x12	Am. Marine	600	Richmond	FDH 35-2	Inland
FMC	Boom 8x12	Am. Marine	600	Richmond	FOSS 248	Inland
FMC	Boom 8x12	Am. Marine	600	Richmond	FOSS BMC-10	Inland
FMC	Boom 8x12	Am. Marine	600	Richmond	FOSS 185-P3	Inland
FMC	Boom 8x12	Am. Marine	600	Richmond	FDH 35-1	Inland
NSWOB 39	Boom 8x12	Kepner	2,700	Richmond	SWOB 39 at Foss Maritime	Inland
32 FRV	Boom 8x12	Kepner (Fence Boom)	2,500	Alameda	32 FRV - Boat House	Inland
3288	Boom 8x12	Kepner (Fence Boom)	7,500	Alameda	48' Trailer located in the East yard	Inland
3127	Boom 9x12	Kepner 21"	2,000	Eureka	24' Cape Trailer # 3169	Inland
NRCES	Boom 12x18	Kepner	300	Alameda	East Lot - for Debris Work	Inland
2027	Boom 8x12	Am. Marine	2,500	Benicia - Valero	Mac Truck # 2027	Inland
6389	Boom 4x6	Am. Marine	500	Alameda	railered / Towable Platform # 6389 - West L	Inland
ST Dock	Boom 21"	21" Kepner	1,200	Martinez	ST Services, Dock	Inland
MB - Set	Boom 21"	21" Kepner	2,500	Martinez	Martinez Marina, Portable Barge Set	Inland
RB - Set	Boom 21"	21" Kepner	1,200	Richmond	IMTT Richmond Interharbor, Barge Set	Inland
3271	Boom 21"	21" Kepner	2,000	Sacramento	Port of Sacramento, 24' Trailer # 3271	Inland
Capella	Boom 21"	21" Kepner	2,000	Eureka	OSRV Capella	Inland
431N	Boom 21"	21" Kepner	2,500	Solby	ST Services, 40' semi trailer # 431	Inland
387	Boom 8x12	Am. Marine	3,000	Eureka	26' Trailer # 387 - Eureka Yard	Inland
3197	Boom 8x12	Am. Marine	1,700	Eureka	20' Trailer # 3197 - Eureka Yard	Inland
388N	Boom 21"	21" Kepner	2,200	Stockton	Port of Stockton, 20' boom trailer # 388	Inland
614	Boom 8x12	Am. Marine	5,000	Martinez	45' Trailer # 614	Inland
708N	Boom 21"	21" Kepner	2,500	Alameda spill trailer # 708	24' Trailer # 708	Inland
709N	Boom 21"	21" Kepner	2,500	Alameda job trailer # 709	East Lot, 24' Trailer # 709	Inland
710N	Boom 21"	21" Kepner	2,500	Alameda spill trailer # 710	East Lot, 24' Trailer # 710	Inland
606N	Boom 8x12	21" American Marine	2,000	Alameda	East Lot, 45' Trailer # 606	Inland
NBM0502	Boom 43"	Inflatable Ocean Sweep Boom	50'	Eureka	Yard	Ocean
NBM43815	Boom 43"	Inflatable Ocean Containment Boom	2,500	Eureka	Yard	Ocean
607N	Boom 42"	42" American Marine	2,500	Alameda	East Lot, 45' Trailer # 607	Ocean
433N	Boom 42"	42" Containment Systems	2,900	Alameda	semi trailer # 433	Ocean
509N	Boom 54"	54" American Boom & Barrier	1,300	Alameda	semi trailer # 509	Ocean

Total Boom Length (ft.)	72,500
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VESSELS

ID#	Identification	Specification	Capacity/Speed	Storage	Home Base	Maintained
6032	Response Vessel 17'	"Salmon" Boston Whaler	25knts	Trailer #5578 - Eureka Yard	Eureka	Use/Monthly
6035	Trailer, boat	Boston Whaler				
6056	Response Vessel 32'	"Dasher"	35knts	Boathouse Moorage	Alameda	Use/Monthly
6294	Response Vessel 22'	"Buckeye" Boston Whaler	35knts	Trailer - East Lot	Alameda	Use/Monthly
6389	Deployment Vessel	"SeaPack"	N/A	West Lot	Alameda	Use/Quarterly
6400	Response Vessel 26'	"Jet Traktor"	45knts	Trailer - East Lot	Alameda	Use/Quarterly
6409	Response Vessel 25'	"Rocket" Boston Whaler	45knts	Boathouse Moorage	Alameda	Use/Quarterly
6477	Response Vessel 26'	"Guardian" Runabout	45knts	Eureka Yard w/ Trailer 6478	Eureka	Use/Quarterly
6782	Response Vessel 26'	"Monarch"	30knts	FMC Richmond	Richmond	Use/Quarterly
Tri-1	Response Vessel 21'	"Shooter" Boston Whaler	25knts	Boat House	Alameda	Use/Monthly
Tri-2	Response Vessel 21'	"Impact 1" Boston Whaler	25knts	Boat Trailer - Trident Yard	Alameda	Use/Monthly
Tri-3	Response Vessel 21'	"Impact 2" Boston Whaler	25knts	Boathouse Moorage	Alameda	Use/Monthly
Tri-4	Response Vessel 21'	"Buster" Boston Whaler	35knts	Trailer - Trident Yard	Alameda	Use/Quarterly
Tri-5	Response Vessel 21'	"Slasher" Boston Whaler	25knts	Trailer - Trident Yard	Alameda	Use/Monthly
Tri-6	Response Vessel 21'	Security 1	25knts	Trailer - Trident Yard	Alameda	Use/Monthly
Tri-7	Response Vessel 22'	"Security 2" Boston Whaler	35knts	Boat House	Alameda	Use/Monthly
Tri-8	Response Vessel 25'	"Terminator" Boston Whaler	45knts	Boat Trailer - Trident Yard	Alameda	Use/Monthly
Tri-9	Workboat-Flattop	"Flattop" Navy 30'	12knts	Boathouse	Alameda	Use/Quarterly
Tri-10	Workboat	"Mike 1" Navy 50'	18knts	Boathouse	Alameda	Use/Monthly
Tri-11	Workboat	"Mike 2" Navy 50'	18knts	Storage - Trident Yard	Alameda	Use/Monthly
KK	Response Vessel 25'	"Protector"	35knts	Boat Trailer - East Lot	Alameda	Use/Monthly
KK	Response Vessel 26'	"Hot Pursuit"	50knts	Trailer - East Lot	Alameda	Use/Monthly
BHSS109	Response Vessel 28'	"K Boat" 28' BHSS Vessel	20knts	Martinez Marina, Dock C, moorage	Martinez	Use/Yearly
OSRV	Response Vessel 65'	Capella	10knts	Eureka - Dock	Eureka	Use/Yearly
WB116	Response Vessel 21'	"Rib 1" Safeboat	20knts	On board OSRV NRC Columbia	Eureka	Use/Yearly
WB122	Response Vessel 18'	"Jet sled" Alum., 18'	50knts	East yard trailer #1194	Alameda	Use/Yearly
WB120	Response Vessel 17'	"Splasher" 16' 7" (hauled by N1192)	10knts	trailer #1192	Alameda	Use/Yearly
WB200	Response Vessel 23'	"Trojan" Safeboat 250 HP	20knts	Benicia - Valero	Benicia	Use/Yearly

Total Response Vessels	28
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SKIFFS

ID#	Identification	Specification	Capacity/Speed	Storage	Home Base	Maintained
KK	Skiff	Traveler 12'	10 kts	32' FRV Dasher	Alameda	Use/Quarterly
6297	Skiff	Westcoaster 14	10knts	32' FRV "Dasher"	Alameda	Use/Quarterly
6298	Skiff	Westcoaster 12	10knts	Trailer #3106	Alameda	Use/Quarterly
6999	Skiff	"Carolina" Skiff	10knts	Port of Stockton, trailer #1184 in container	Stockton	Use/Quarterly
6302	Skiff #107	Skiff	10knts	Trailer #6299	Alameda	Use/Quarterly
6302	Skiff #104	Skiff	10knts	yard	Alameda	Use/Quarterly
6302	Skiff #102	Skiff	10knts	yard	Alameda	Use/Quarterly
6302	Skiff #103	Skiff	10knts	Trailer #6300	Alameda	Use/Quarterly
6302	Skiff #105	Skiff	10knts	yard	Alameda	Use/Quarterly
6302	Skiff #106	Skiff	10knts	yard	Alameda	Use/Quarterly
6302	Skiff #101	Skiff	10knts	Yard-1	Alameda	Use/Quarterly
WB100N	Skiff	Kaimath 1 (14' FRV)	10knts	east yard	Alameda	Use/Yearly
WB101N	Skiff	Kaimath 2 (14' FRV)	10knts	Port of Sacramento, trailer #1182 in container	Sacramento	Use/Yearly
WB103N	Skiff	Sylvan WB#103	10knts	Samosa Dock	Eureka	Use/Yearly
WB106N	Skiff	Sylvan WB#106	10knts	Samosa Dock, in boom trailer #407	Eureka	Use/Yearly
WB110N	Skiff	Sylvan WB #110	10knts	west yard	Alameda	Use/Yearly

APPENDIX C – RESPONSE EQUIPMENT AND RESOURCES

NWB115	Skiff	Valco WB#115, (14' FRV)	10knts	Samoa Dock, trailer #1186	Eureka	Use/Yearly
WB118N	Skiff	Lowe WB #118	10knts	Samoa Dock, trailer #1191	Eureka	Use/Yearly
WB107	Gamefisher 14'	14' Gamefisher	10knts	Yard	Eureka	Use/Yearly
WB121	Skiff	"Lowes Boat" (hauled by N1193)	10knts	East yard, trailer #1193	Alameda	Use/Yearly
Total Skiffs			20			

VESSEL TRAILERS

ID#	Identification	Specification	Storage	Home Base	Maintained
1184	Trailer, boat	hauls	Alameda	Alameda	Quarterly
??	Trailer, boat	hauls WB101	Stockton	Stockton	Quarterly
N1182	Trailer, boat	hauls WB101	Sacramento	Sacramento	Quarterly
???	Trailer, boat	???	Alameda	Alameda	Quarterly
WBT118	Trailer, boat	hauls WB118	Eureka	Eureka	Quarterly
WBT-118	Trailer, boat	Workboat	Yard	Eureka	Quarterly
WBT103	Trailer, boat	hauls WB103	Eureka	Eureka	Quarterly
WBT115	Trailer, boat	hauls WB115	Eureka	Eureka	Quarterly
WBT-115	Trailer, boat	Workboat	Yard	Eureka	Quarterly
N1189	Trailer, boat	Hauls WB200			Quarterly
N1192	Trailer, boat	hauls WB120	West Lot	Alameda	Quarterly
N1193	Trailer, boat	hauls WB121	East Lot	Alameda	Quarterly
N1194	Trailer, boat	Sled Trailer, holds WB122	West Lot	Alameda	Quarterly
5046	Trailer, boat	holds 16' skiff	West Lot	Alameda	Quarterly
6075	Trailer, boat	28' holds Marco skimmer 6030	West Lot	Alameda	Quarterly
6078	Trailer, boat	holds Boston Whaler 6032	East Lot	Eureka	Quarterly
6295	Trailer, boat	EZ Loader, 1996 holds #6294	East Lot	Alameda	Quarterly
6299	Trailer, boat	Calkins	East Lot	Alameda	Use/Quarterly
6300	Trailer, boat	Calkins hauls 6409	East Lot	Alameda	Quarterly
6410	Trailer, boat	King boat trailer hauls boat 6477	Eureka	Eureka	Quarterly
6478	Trailer, boat	water trailer	East Lot	Alameda	Quarterly
3284	Trailer, boat				

APPENDIX C – RESPONSE EQUIPMENT AND RESOURCES

NRC Environmental Resources
Alameda COTP Zone

SKIMMERS

ID#	Identification	Specification	Recovery BPD	Efficiency	EDRC	Storage	Home Base	Maintained	Inland/Ocean	Date Acquired
4093	Air Conveyors	Vac-U-Max	2,055	20%	411	Container, Yard 2	Alameda	Use/Quarterly	Inland	1/15/2003
4092	Air Conveyors	Vac-U-Max	2,055	20%	411	Container, Yard-2	Alameda	Use/Quarterly	Inland	12/1/1992
4094	Air Conveyors	Vac-U-Max	2,055	20%	411	Container, Yard-2	Alameda	Use/Quarterly	Inland	9/15/2002
6359-1	Weir Skimmer	3" Skimpak	888	81%	1,458	24' trailer, 3106	Alameda	Use/Quarterly	Ocean	
6359-2	Weir Skimmer	3" Skimpak	888	81%	1,458	24' trailer, 3106	Alameda	Use/Quarterly	Inland	12/1/1992
6359-3	Weir Skimmer	3" Skimpak	888	81%	1,458	24' trailer, 3179	Alameda	Use/Quarterly	Inland	12/1/1992
6359-4	Weir Skimmer	2" Skimpak	888	81%	719	24' trailer, 3179	Eureka	Use/Quarterly	Inland	12/1/1992
6359-5	Weir Skimmer	3" Skimpak	888	81%	1,458	24' trailer, 3179	Alameda	Use/Quarterly	Inland	12/1/1992
9362	Weir Skimmer	2" Skimpak	888	81%	719	Container, Yard-2	Alameda	Use/Quarterly	Inland	12/1/1992
9296	Weir Skimmer	2" Skimpak	888	81%	719	Container, Yard-2	Alameda	Use/Quarterly	Inland	12/1/1992
9359	Weir Skimmer	3" Skimpak	1,800	81%	1,458	24' trailer #3179	Alameda	Use/Quarterly	Inland	9/21/2001
9360	Weir Skimmer	3" Skimpak	1,800	81%	1,458	Container, Yard-2	Alameda	Use/Quarterly	Inland	1/15/2003
9358	Weir Skimmer	3" Skimpak	1,800	81%	1,458	Container, Yard-6	Alameda	Use/Quarterly	Inland	9/21/2001
4151	Weir Skimmer	Foilex 150	5280	20%	1,056	24' trailer #3179	Alameda	Use/Quarterly	Inland	8/1/2000
AB114N	Weir Skimmer	Marco CLASS XI	120,000	20%	24,000	SWOB 39 - FMC	Richmond	Use/Yearly	Ocean	1/15/2003
6030	Belt Skimmer Vessel	Marco/JC, 28'	4,971	74%	3,879	Trailer #6075	Alameda	Monthly	Ocean	12/1/1992
TRUB	Belt Skimmer Vessel	JBFI/DIP 3001	3,429	94%	3,223	Boathouse	Alameda	Use/Quarterly	Ocean	12/1/1992
ALAMEDA	Belt Skimmer Vessel	JBFI/DIP 3001	3,429	94%	3,223	Boathouse	Alameda	Use/Quarterly	Ocean	12/1/1992
NYMSS1	Brush Skimmer	Aquaguard ABR - 40	60250	20%	11,468	OSRV NRC Capella	Eureka	Use/Yearly	Ocean	1/15/2003
NYMSS2	Brush Skimmer	Aquaguard ABR - 40	60250	20%	11,468	East yard - Trailer	Alameda	Use/Yearly	Ocean	1/15/2003
6178	Disc Skimmer	Vikoma/Komara 12K	2,400	95%	2,280	Warehouse	Eureka	Use/Quarterly	Inland	12/1/1992
6293	Disc Skimmer Power Pack	Vikoma/Kebab 600 E	1370	90%	1,233	Warehouse	Eureka	Use/Quarterly	Inland	6/1/1991
NAG-001	Brush Skimmer	ACTION MODEL 24	9770	20%	1,954	24' trailer #3179	Alameda	Use/Yearly	Ocean	1/15/2003
NAP105	Drum/Disc Skimmer	ACTION MODEL 24	20570	20%	4,114	Martinez Marina, Portable Barge Set	Martinez	Use/Yearly	Ocean	9/15/2002
AP-60-102	Drum Skimmer	ACTION MODEL 24	9770	20%	1,954	Trailer - Alameda	Alameda	Use/Yearly	Ocean	1/15/2003
AP-104A	Drum Skimmer	ACTION MODEL 24	9770	20%	1,954	IMTT - Richmond	Richmond	Use/Yearly	Ocean	1/15/2003
AP-105A	Drum Skimmer	ACTION MODEL 60	20570	20%	4,114	Samoa Dock	Eureka	Use/Yearly	Ocean	12/1/1992
WS-008N	Skimmer	Vikoma cascade	34285	20%	6,857	flatbed trailer #342	Alameda	Use/Yearly	Ocean	1/15/2003
WH222N	Weir Skimmer	VTU Acme Weir Head 6857	34285	20%	6,857	flatbed trailer #373	Martinez	Use/Quarterly	Inland	1/15/2003
AP-103A	Skimmer	VTU Acme Weir Head 6857	34285	20%	6,857	Martinez Marina	Eureka	Use/Quarterly	Inland	12/1/1992
NAP101	Multi Skimmer	AP Model 24	9770	20%	1,954	Warehouse	Selby	Use/Yearly	Ocean	12/1/1992
NFFP001	Weir Skimmer Power Pack	FASFLC3154	15770	20%	3,154	Container, Yard-5	Alameda	Use/Yearly	Ocean	12/1/1992
NAP107	Weir Skimmer	CASCADE-5465	27325	20%	5,465	Container, Yard-8	Alameda	Use/Yearly	Ocean	12/1/1992
373N	Weir Skimmer Power Pack	Vikoma Fastflo	15770	20%	3,154	Trailer # 373	Selby	Use/Yearly	Ocean	12/1/1993
NWS-100	Weir Skimmer	Vikoma Cascade Weir LP-3000	34285	20%	5,520	West yard, Trailer # 342	Alameda	Use/Yearly	Ocean	12/1/1993
Total EDRC BPD			131,008							

OTHER

ID#	Identification	Specification	Recovery BPD	Efficiency	EDRC	Storage	Home Base	Maintained	Inland/Ocean	Date Acquired
4151-1	Power Pack	Power pack to 4151	N/A	N/A	N/A	24' trailer # 3179	Alameda	Use/Quarterly	Ocean	1/15/2003
NAP105	Power Pack	Power Pack to AP105	N/A	N/A	N/A	24' trailer #3179	Alameda	Use/Quarterly	Ocean	1/15/2003
DPP-AP101	Power Pack	Power Pack to AP101	N/A	N/A	N/A		Eureka	Use/Quarterly	Inland	1/15/2003
NAP103	Power Pack	Power Pack to AP103	N/A	N/A	N/A	IMTT - Richmond	Richmond	Use/Quarterly	Inland	1/16/2003
NAP103	Power Pack	Power Pack to AP103	N/A	N/A	N/A	Martinez Marina	Martinez	Use/Quarterly	Inland	1/17/2003
7024	Power Pack	Petrol Powered	N/A	N/A	N/A	Eureka	Eureka	Use/Quarterly	Inland	1/18/2003
DPP-AP104S	Power Pack	AP-10 Diesel Hydraulic	N/A	N/A	N/A		Eureka	Use/Quarterly	Inland	1/15/2003
100N	VTU	FMT Vacuum Transfer Unit	N/A	N/A	N/A	Selby, flatbed # 373	Selby	Use/Quarterly	Ocean	1/15/2003
DPP-AG-001N	Power Pack	Power pack to AG-001 AQUAGUARD	N/A	N/A	N/A	West Yard, flatbed trailer #342	Alameda	Use/Quarterly	Inland	1/15/2003
222N	VTU	Vacuum transfer unit for WS-100	N/A	N/A	N/A	West Yard, flatbed trailer #342	Alameda	Use/Quarterly	Ocean	1/15/2003
NWS-100	Control panel	VIKOMA Cascade Weir LP-3000	N/A	N/A	N/A	West Yard, flatbed trailer #342	Alameda	Use/Quarterly	Ocean	1/15/2003
DSM-004	Dispersant spray mount	Dispersant spray mount	N/A	N/A	N/A	Warehouse	Eureka	Use/Quarterly	Ocean	1/15/2003

APPENDIX C – RESPONSE EQUIPMENT AND RESOURCES

NRC Environmental Resources

Alameda COTP Zone

HAZMAT / COMMUNICATION

MONITORING EQUIPMENT

ID#	Identification	Specification	Storage	Home Base	Maintained	Date Acquired
A8051	Gas Detector (6)	Industrial Scientific 4-Gas Meter	Office	Alameda	As needed	
8052	Gas Detector (4)	Crowcon "Tetra" 4-Gas Meter	Office	Alameda	As needed	
8052	Gas Detector	Crowcon "Tetra" 4-Gas Meter	Office	Eureka	As needed	
8092	Personal Data Ram - Mini Ram	Thermo Electron , handheld/fixed-point, aerosol monitor/data logger	Office	Alameda	As needed	3/16/05
8069	Gas Detector	FRHT 70 bbl	East Yard	Alameda	Monthly	6/1/1996
8083	Gas Detector	Gas Tech, O2 LEL	Office	Alameda	Use/Quarterly	1/1/2000
8084	Air Pump Sampler	Drager pump	Office	Alameda	As needed	
8085	Radiation Alert	Minitor 4/4EC, Rad Meter	Office	Alameda	Use/Quarterly	
8086	PID Photo Vac 2020	PID/HNU/OVA Meter	Office	Alameda	Use/Quarterly	
8078	Gas Meter	GT-201	Office	Eureka	Use/Quarterly	
8999	Personal Sampling Pump (3)	1-5LPM	Office	Alameda	As needed	
8999	Shirt Pocket Air Sampling Pumps (4)	PAS-500 (5-200cc/Min.)	Office	Alameda	As needed	
8999	Air Samplers (3)	Spectrex Air Samplers	Office	Alameda	Use/Quarterly	
8999	Bubble Flow Meter	Calibration of PAS-500 Pumps	Office	Alameda	Use/Quarterly	
8999	Rotometer	Calibration of Sensidyne Pumps	Office	Alameda	Use/Quarterly	
A8999-2	Instant Smoke Respirator Testor	Test Respirator Integrity	Office	Alameda	Use/Quarterly	
A8999-1	Instant Smoke Respirator Testor	Test Respirator Integrity	Office	EUREKA	Use/Quarterly	

SAFETY EQUIPMENT

ID#	Identification	Specification	Storage	Home Base	Maintained	Date Acquired
6290	Decon Pool	20'x110'	ER Van #3082	Alameda	Use	
6291	Decon Pool	50'x100'	ER Van #3082	Eureka	Use	
7089	Venturi Blower	2200 CFM pneumatic w/Ground. Cable	CSE Cont. # 1	Alameda	Monthly	
7107	SCBA (4)	Scott 30min	East Yard	Alameda	Monthly	
7107	SCBA (4)	Scott 30min	Yard	Eureka	Monthly	6/1/1996
7106	SCBA (4)	Scott 60 min	East Yard	Alameda	Monthly	6/1/1996
7106	SCBA (4)	Scott 60 min	Yard	Eureka	Monthly	6/1/2000
7107	SCBA (4)	Scott 30min	ER Trailer	Sacramento	Monthly	
AIR1	Cylinders for SCBA Bottle Refills (9)	East Yard	CSE Cont. # 1	Alameda	Monthly	
AIR6	Six Pack Air Whips w/ Check Valve (2)	East Yard	CSE Cont. # 1	Alameda	Monthly	
7108	Copus Blower (2)	3000 CFM, 1hp, 115V	CSE Cont. # 1	Alameda	Monthly	
7112A	50'-Lanyards (15)	Horizontal Con. Space Rescue Systems	CSE Cont. # 1	Alameda	Use	
7112B	Harness' (10)	Miller Full Body Harness'	CSE Cont. # 1	Alameda	Use	
7112C	6'-Lanyards (10)	Complete w/ Shock Absorbers	CSE Cont. # 1	Alameda	Monthly	
VA1	Voice Amplifiers (3)	For AV2000 Masks	Office	Alameda	Use	
9085-1	Safety Tri-pod	Repod Tri-Pod w/Wench (50' Cable)	CSE Cont. # 1	Alameda	Use	
9085-2						
9085-3	Safety Tri-pod	Miller Tripod w/Wench (50' Cable)	CSE Cont. # 1	Alameda	Use/Quarterly	3/1/2000
9085-4	Safety Tri-pod	Miller Tripod w/Wench (100' Cable)	CSE Cont. # 1	Alameda	Use/Quarterly	
9085-5	Safety Tri-pod	Miller Tripod w/Wench (100' Cable)	CSE Cont. # 1	Alameda	Use/Quarterly	2/1/06
9085-6	Safety Tri-pod	Miller Tripod w/Wench (50' Cable)	CSE Cont. # 1	Alameda	Use/Quarterly	3/13/06
9085-7	Safety Tri-pod	Miller Tripod w/Wench (50' Cable)	CSE Cont. # 1	Alameda	Use/Quarterly	3/13/06
9085-8	Safety Tri-pod	Miller Tripod w/Wench (100' Cable)	CSE Cont. # 1	Alameda	Use/Quarterly	3/13/06
9085-9	Safety Tri-pod	Miller Tripod w/Wench (100' Cable)	CSE Cont. # 1	Alameda	Use/Quarterly	3/13/06
9085-10	Safety Tri-pod Model # 11232 & 18002	UC Advanced Tripod w/ Wench (100' Cable)	CSE Cont. # 1	Alameda	Use/Quarterly	
AP15	Ska-Pak (10)	15min Escape Pack	East Yard	Alameda	Monthly	
AP15	Ska-Pak (3)	15min Escape Pack	East Yard	Eureka	Monthly	
AP15	Ska-Pak (3)	15min Escape Pack	ER Trailer	Sacramento	Monthly	
9086-1	HAZCAT Chemical ID Kit	Chemical Testing Kit	Cont. # 4	Alameda	Monthly	
9086-2	HAZCAT Chemical ID Kit	Chemical Testing Kit	Cont. # 4	Alameda	Monthly	

SECURITY

ID#	Identification	Specification	Storage	Home Base	Maintained	Date Acquired
XYZ	Security Trailer	Carson, camper trailer	East Yard	Alameda	USE	May-05
2XYZ	Security Trailer	Jayco, camper trailer	West Yard	Alameda	USE	Feb-07

DIGITAL CAMERAS

ID#	Identification	Specification	Storage	Home Base	Maintained	Date Acquired
AWS-1	Kodak digital Camera	Kodak C340	East Yard - FS	ALAMEDA	USE	10/25/05
ADC-1	Kodak digital Camera	Kodak C340	OFFICE- Check Out	ALAMEDA	USE	10/25/05
ADC-2	Pentax Digital Camera	Pentax Optio Waterproof	East Yard - SK	ALAMEDA	USE	11/4/05

COMMUNICATION

ID#	Identification	Specification	Storage	Home Base	Quantity	Maintained
AUVR1	Radio, UHF/VHF	Motorola	Office	Alameda	8	As Needed
	Scott	(4) Motorola w/ base station, and com wires	Office	Alameda	1	As Needed
AVFF1	Radio, VHF	Standard	Office	Alameda	18	As Needed
ACP1	Radio/Cellular Phones	NEXTEL, 20 radios	Office	Alameda	35	As Needed

APPENDIX D - PREVENTION/INSPECTION MEASURES

D.100 INSPECTION MEASURES**D.110 RESPONSE EQUIPMENT TESTING/INSPECTIONS**

All equipment will be inspected and maintenance performed annually or sooner (at manufacturers recommendation), and/or after each deployment. Normal maintenance is performed by a contractor. Records are maintained for all testing, servicing and repair. Benicia Marine will notify Benicia Refinery should any major pieces of equipment be taken out of service.

Expendable materials, including sorbents, will be inventoried annually, or after each emergency response. As necessary, depleted stocks will be replenished to maintain the approximate inventory levels described in this plan.

D.120 SECONDARY CONTAINMENT INSPECTION

The technicians in each area or zone are assigned, as part of their normal duties, to inspect their area, which includes secondary containment, and observation for spills or leaks. Should a problem occur, it is noted in the Daily Log Book and the supervisor is notified immediately.

D.130 ABOVEGROUND PETROLEUM STORAGE TANKS

Daily visual inspections of aboveground storage tanks are conducted as required by Section 25270.5(d)(1) of the Aboveground Petroleum Storage Act. In addition, tanks are formally inspected in accordance with the guidelines of API Standard 653. A copy of the API Tank In-Service Inspection Checklist is provided at the end of this Appendix. Additional information regarding tankage operations, inspection, testing and maintenance is provided in the *Benicia Refinery Aboveground Storage Tank Management Manual*.

D.140 MARINE TERMINAL EQUIPMENT

Marine Terminal equipment tests and inspections are conducted annually in accordance with the requirements of 33 CFR 156.170. This equipment includes:

- transfer system relief valves;
- oil transfer pipe systems;
- remote indicating equipment; and
- vapor control system components.

D.150 ONSHORE OIL PIPELINES

Onshore Oil Pipelines are tested according to the requirements of 49 CFR 195.300, API RP 1110 and ANSI B31.4. Effectively cathodically protected lines will be tested at intervals not exceeding 5 years, except for CSFM listed higher risk pipelines which shall be tested at intervals not exceeding every 2 years. Non-effectively cathodically protected lines will be tested at intervals not exceeding 3 years, except for CSFM listed higher risk pipelines which shall be tested at intervals not exceeding every year.

Benicia Refinery will employ the services of an independent third party testing firm to certify the result of the hydrostatic tests. This firm shall be licensed by the CSFM to certify hydrostatic tests.

Benicia Refinery will notify the CSFM and the local fire department having fire suppression responsibilities at least three working days prior to conducting a hydrostatic test required by the regulations. The notification shall include:

- name, address, and telephone number;
- the specific location of the pipeline section to be tested and the location of the test equipment;
- the date and time the test is to be conducted;
- an invitation and telephone number for the local fire departments to call for further information regarding any emergency response during the test;

- the test medium; and
- the name and telephone number of the independent testing firm or persons responsible for certification of the test results.

Benicia Refinery will use only fresh clean water as a hydrostatic test fluid unless a product is approved, in writing, by the CSFM. Benicia Refinery shall test the hydrostatic test water for pH, total alkalinity, turbidity, occluded carbon dioxide, and chlorides. These tests should be performed several weeks prior to the planned hydrostatic testing date. This will allow sufficient time for the review of water quality tests and to obtain the necessary permits as required.

D.160 AVAILABILITY OF RECORDS

Maintenance and inspection records of the storage and transfer facilities regulated by OSPR will be made available to the Administrator.

D.200 PERSONNEL PREVENTION MEASURES- SUBSTANCE ABUSE POLICY

Valero energy Corporation is committed to providing its employees a safe, drug-free environment. Employees are therefore prohibited from using illegal substances and/or abusive levels of legally prescribed controlled substances. The Company prohibits the possession, distribution, purchase or sale of illegal drugs, drug paraphernalia, intoxicants, or controlled substances in any amount or in any manner. The Company prohibits the abuse of prescription drugs. Employees are strictly prohibited from being on duty, or using Company facilities, or operating Company vehicles or equipment with drugs or alcohol in their system, regardless of when and where the drugs and /or alcohol were consumed.

The Company reserves the right to conduct examinations, searches and inspections of employees and their personal effects, including Company property such as desks, files, lockers, and personal items brought onto Company premises or Company sponsored event sites. Entry into the Company's work sites, premises, or event sites constitutes

consent to examinations, searches, inspections and/or testing at any time, with or without notice.

The only exception to this policy is Company sponsored events where alcohol is approved to be served and expected to be consumed in moderation.

Employees in violation of these guidelines will be subject to immediate disciplinary action, up to and including termination. Non-employees(those working under contract or other work arrangements) in violation will be immediately removed from the work site and could cause termination of contractual relationships, including but not limited to, the withholding of contractual payments.

APPENDIX E COMMUNICATIONS PLAN

E.1 INTRODUCTION

Experience has shown that an effective communications system is one of the keys to an efficient oil spill cleanup operation. Activities within each segment of the overall cleanup operation must be coordinated. Moreover, cross communications must also exist between each distinct segment. Without such overlapping communications, cleanup operations management is severely restricted.

E.2 ALERTING SYSTEM

When an oil spill occurs, members of the response team must be alerted in order to begin cleanup operations.

The most common means of alerting response team members is by radio. Telephone will also be used.

Telephone alerting systems are ineffective unless response team members are convenient to their phones. Radio paging has the advantage of reaching response team members wherever they are - at lunch, the movies, or on the golf course - when they are needed, thereby reducing response time. Key personnel along with the Benicia Refinery SMT have a paging system. Current pager assignments can be accessed through the refinery computer system.

It must be remembered, however, that pagers only provide one-way communication. These units are valuable at facilities where telephones are nearby, but they must not be depended upon for communications with personnel at the spill site. One can never be sure that contact has been made with the intended person due to interference, noise, or an inoperable unit. On-site cleanup operations necessitate a dependable two-way communications system.

E.3 COMMUNICATIONS CENTER

Provisions are also in place to establish a communications center in Conference Room C of the Administration Building for Public Affairs. Details are presented in the *Public Affairs Emergency Response Plan*.

With medium and large spills it may be necessary to set up a small office trailer at the spill site, as a communications center. The Shift Superintendent's communication system in the Control Center will be utilized initially.

E.4 Benicia Refinery Radio Equipment

Portable Radio Units

Oil movements Section Supervisor's office has six radios available. They have Process, Mechanical, NRC ES, and set-to-set frequencies.

Each Benicia Refinery operations person has been assigned a personal radio. These radios will be used by the "On-Shift Response Team".

Nextel Radios

The Shift Superintendent have intrinsically safe Nextel radios that provide direct connect communication. In addition, it is programmed for direct communication with NRCES.

APPENDIX F

PUBLIC AFFAIRS

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APPENDIX F
PUBLIC AFFAIRS

F100 OVERVIEW

The Valero Benicia Refinery has developed a Public Affairs Response Plan and a Public Affairs Response Team for responding to the public's need for information when an event occurs at the refinery. The Response Plan is designed to provide timely and accurate information to the media and public.

The Plan recognizes the Public Affairs response is secondary to the safety of personnel, preservation of Valero Benicia Refinery equipment and protection of the surrounding environment. However, calls and on-site visits from members of the media seeking a story can be a major deterrent to those directly responding to the crisis if not properly and promptly handled by Public Affairs. Therefore, the Public Affairs Response Plan calls on certain personnel who are not immediately needed to respond to the crisis.

To be responsive to the constantly changing needs of the public and media, the Public Affairs Response Plan is extremely dynamic and subject to continual review and revision. The following summary describes the overall content of the Public Affairs Plan and responsibilities/resources of the Public Affairs Response Team.

F200 PUBLIC AFFAIRS TEAM

F200.1 RESPONSIBILITIES

Responsibilities of the Public Affairs Team include the following:

- Provide screening of all outside calls (coming via the switchboard) to the operating personnel responding to the crisis.
- Coordinate all news media activities, including:
 - a. establishing an on-site "press area";
 - b. escorting outside of the "press area";
 - c. handling all phone inquiries;
 - e. arranging all interviews.
- Interface with the Human Resources department regarding employee family inquiries.
- Interface with Safety Department on release of information to Valero Benicia Refinery employees.

- Consult with other departments on possible release of information by government agencies, such as the U.S. Coast Guard, Cal. OSHA, BAAQMD, etc.
- Directly interface with "Public Information Officers" at Benicia Fire and Police Departments and local hospitals.
- Serve as a liaison between Valero Benicia Refinery Management and City of Benicia Mayor, City Council and City Manager.
- Respond to all inquiries from the general public.

F200.2 TEAM COMPOSITION

Key positions and responsibilities include the following:

- Public Affairs Manager/Representative
 1. Arrange informational updates of the response plan.
 2. Make initial assessment of the crisis potential and start the appropriate response team mobilization. Arrange for plans to be made for an alternate team site, if appropriate.
 3. Provide management direction of the entire response effort. Review resources and response effort and draw upon the Valero Benicia Refinery organization for adjustment to resources as needed.
 4. Interface with San Antonio management
(Mary Rose Brown 210-370-2314.)
 5. Ongoing review progress/status of the crisis with key team members.
 6. Serve as, or arrange for interviews with the media as required.
 7. Decide if appropriate to shift from "response only" to "active press release" mode.
 8. Direct activities of the Public Affairs Assistant during the crisis.
 9. Arrange for detailed log of the response, including key activities of all response team members. Put together a notebook of the incident after the event.
 10. Arrange for a critique of the response by all team members and selected media representatives involved. Modify response plan as needed.
 11. Keep a personal log of significant events.

- Public Affairs Assistant
 1. Make corrections to response plan as determined during drills.
 2. Arrange for up-to-date response manuals and at-home callout list distribution.
 3. Notify Public Affairs Manager Alternate if Public Affairs Manager is not available during regular Administration Building hours.
 4. Provide initial response during a day shift emergency until the response team is mobilized.
 5. Coordinate meetings of the key response team members with the Public Affairs Manager.
 6. Make initial contact with Headquarters Media Relations (Mary Rose Brown, 210-370-2314) as appropriate.
 7. Keep a log of all significant events.
 8. Other items at the request of the Public Affairs Manager involving items which can be done from the Public Affairs office.
- Company Interface Coordinator
 1. Arrange to have guards notified to activate the recorder message center if a response team has been mobilized. Inform the Public Affairs Assistant to call forward Public Affairs numbers 7534 to 7304. This activates the Public Affairs answering machines in Conference Room 'C'.
 2. Report to the scene of the incident and obtain information for release to the media and public. This must not interfere with the response to the emergency.

3. Prepare a written statement and have it reviewed by the Public Affairs Manager, the Law Department, and Refinery Manager. Cover the when where, who, how much, but NOT the why. (Typically, the statement should be a short summary of the incident, indicating that it is under further investigation.)
4. Obtain injury information from Telephone Coordinator (via hospitals) and include it in the written release.
5. Update the written statement at significant milestones.
6. Meet with the Public Affairs Manager to review status and problems.
7. Interface with Human Resources/Medical if large numbers of Valero Benicia Refinery employees are involved. Notify Telephone Coordinator to have employee family calls transferred to Human Resources/Medical personnel. Only Human Resources/Medical are authorized to release information to family members of casualty victims.
8. Interface with other Valero Benicia Refinery departments (Law, Safety, Environmental, etc.) on the press statements made by agencies such as BAAQMD, OSHA, etc. Upon consultation and approval with the Valero Benicia Refinery department involved, make contact with agency Public Information Officers and inform them of the Valero Benicia Refinery's Public Affairs response and read any Valero Benicia Refinery prepared statement.
9. Work with Business Services Department if damage claims appear to be forthcoming from the community.
10. Arrange for Valero Benicia Refinery employees to be informed of that information which is being released to the media. Work with Safety Department to use "Safety Flash" or distribute copies of written statement.
11. Assure that contractor management (if contractor employees are involved) are aware of their public affairs responsibilities. Assist contractor management in this area if appropriate.
12. Keep a log of significant events.

- Telephone Coordinator
 1. Mobilize Public Affairs Telephone Coordinators to handle incoming calls and call-backs in the communications center conference room.
 2. If injuries have occurred, speak with hospital information officers to determine the status of their media response. Pass on this information to the Company Interface Coordinator for inclusion in written press release.
 3. Contact Public Information Officers at Benicia Fire and Police Departments once information is available to the media. Give them the information and suggest public and media inquiries be directed to the communications center directly. May include other agencies, such as Highway Patrol, Sheriff, etc.
 4. Supervise activities of telephone coordinator back-ups. Arrange for call-backs and breaks, call in relief, de-mobilize the communications center, etc.
 5. Meet with the Public Affairs Manager to review problems and status.
 6. Keep a log of significant events for follow-up report by the Public Affairs Manager.
- On-Site Media Coordinator
 1. Mobilize media escorts as appropriate for the crisis. Provide training for prospective escorts.
 2. Mobilize "Section Supervisors" for the escorts, runners, facilities planners, if required, and establish communications lines for all personnel.
 3. Obtain paging equipment as outlined in the "Communications Facilities" section.
 4. Arrange for checking credentials of all media personnel.
 5. Arrange for "runners" to carry messages, do copying, etc., at direction of the Public Affairs Assistant.
 6. Arrange for logging in and out of all on-site media.

7. Arrange for all media to be escorted by Valero Benicia Refinery personnel when out of the press area. (Hard hats and safety glasses needed when in the process block only.)
 8. If appropriate, convert Administration Building cafeteria into a "press center." Arrange to secure lobby and cafeteria from the rest of the building, as well as rear exits to the Refinery.
 9. Meet with the Public Affairs Manager to review status and problems.
 10. Arrange for press phones to be mobilized as outlined in the "Communications Facilities" Section. Determine need for additional Pacific Bell services.
 11. Arrange food/coffee for the media if it appears the media will be on-site for an extended period.
 12. Provide facilities for any press conferences by Valero Benicia Refinery personnel. Include room arrangement, chairs, power, podium, etc.
- Public Affairs Telephone Coordinator Back-ups
 1. First person on-site during nights weekends and holidays to set up the communications center.
 2. Subsequent members to log media and public calls for call-back when information is available. If during nights, weekends, holidays, retrieve messages from answering machines.
 3. Make call-backs with "written statement" to public and media.
 4. Make every effort to avoid making any "on-air" statements.
 5. Respond to employee and contractor family inquiries unless directed to transfer them to Human Resources.

F300 PUBLIC AFFAIRS PLAN

The Public Affairs Emergency Response Plan includes a series of call-out lists, plans for establishing emergency Public Affairs communications, and identification of a wide variety of resources and contacts.

F300.1 CALL-OUT LISTS

Call-out lists for all active members of the Public Affairs Team are maintained. These lists are reviewed and modified as necessary to ensure that all positions are filled and backup staffing is identified.

F300.2 COMMUNICATIONS

The Public Affairs Emergency Response Plan includes four major communications elements:

- Switchboard Operations - answering machines;
- Communications Center in Conference Room C;
- Paging equipment for the Public Affairs Manager and On-Site Media Coordinator; and
- Telephones for use by the press in the cafeteria.

Current instructions for implementing these elements are provided in the current version of the Public Affairs Emergency Response Plan.

F300.3 RESOURCES

The Resources section of the Public Affairs Emergency Response Plan include up to date listing or discussion of the following:

- Key Valero Benicia Refinery telephone numbers
- Hospital listings
- Community Assistance organizations
- Agency listings
- Listing of elected officials
- Local radio stations
- Local television stations
- Newspaper services
- Identification of an Alternate Communications Center
- Large Press Conference arrangements
- Listing of Benicia Industrial Park Association members
- Clipping services
- Example news releases
- An information gathering checklist
- Listing of food services
- Procedure tests
- Refinery data
- Emergency Plan for the Administration building

APPENDIX G - SITE-SPECIFIC SAFETY AND HEALTH PLAN

G100 HAZARD RECOGNITION AND SAFETY**I. IDENTIFYING AND SOLVING SAFETY NEEDS****A. Introduction and Objectives**

During cleanup operations, the physical working environment for employees must be continually evaluated. Exposure to either hot or cold weather conditions along with long working hours will adversely affect both the psychological and physiological conditions of those involved. Continued exposure may result in physical discomfort, loss of efficiency and a higher susceptibility to accidents and injuries.

This section discusses the most common causes of accidents and injuries and identifies appropriate preventive measures to ensure a safe working environment and attitude.

1. Buddy System

Communication is critical in working groups. Always stay in visual contact with your team. Use of the team approach and/or buddy system assures:

- a. Emergency assistance is always available.
- b. Observer for signs of overexposure.
- c. Can conduct periodic check of personal protective equipment.
- d. Talk and/or observe buddy frequently.

2. Slips, Trips and Falls

Slips, trips and falls comprise the major physical hazard to personnel. Most activities will be conducted in an environment and on surfaces that are not conducive to walking, namely wet and/or oily surfaces. Many of the walkways, steps and ladders are built for use in the marine environment and do not meet OSHA standards. This, combined with the wet, oily conditions, increases the risk for injury to the back, knees and ankles from slips, trips and falls.

Control measures must be taken by installing anti-slip surfaces, building adequate access ways, and installing handrails, warning employees, and other similar steps to eliminate these hazards.

a. Slips

- 1) Loss of traction is the leading cause of workplace slips.
- 2) Caused by wet surfaces, spills or weather hazards like ice and snow.
- 3) Footwear with soft, flexible soles that fit well is a must.
- 4) Practice safe walking skills:
 - a) On wet surfaces, take short steps and keep your center of balance under you; point your feet in a slightly outward position.
 - b) Be cautious on smooth surfaces.
 - c) Clean up floor spills immediately.

b. Avoid Trips

- 1) Make sure you can see where you are going. Carry loads you can see over.
- 2) Keep work areas well-lit.
- 3) Keep work area clean – don't clutter aisles, stairs or foot path areas.
- 4) Arrange equipment so it does not interfere with your walk path area.
- 5) Extension or power tools can be dangerous tripping hazards.
- 6) Eliminate hazards due to loose footing on stairs, steps and floors.
- 7) On loading docks, store gangplanks and ramps properly.

c. Falls

- 1) Leading cause of injury-producing accidents.
- 2) Avoid jumping – lower yourself carefully from boats, docks, work areas.
- 3) Repair or replace stairs or handrails that are loose or broken.
- 4) Don't store items on stairs or in aisles.
- 5) Wear good shoes. Non-skid soles are a good choice.
- 6) Inspect all ladders for defects before you begin climbing.

- 7) Don't overreach from ladder or stand on top step of ladder.
- 8) Hoist tools or materials up to you after you reach the top of the ladder.

3. Strains

Strains can also be a major accident cause. Pulling of boom, handling oil waste materials, securing boats, handling hoses and overexertion are examples of sources for strains. Slips, trips and falls also result in strains. The most common will be back strain, although any muscle group may be affected.

Effective measures to eliminate strains include use of mechanized lifting equipment, employee education, and assuring that sufficient assistance is available to prevent overexertion.

- a. Lift with your legs and not your back.
- b. Don't try to lift too much – get help or use machinery.
- c. Pulling of anchors or hoses on beaches are common sources of back strains, etc.

4. Noise

Harmful noise levels will be prevalent in oil spill activities. Sources of noise include boats, generators, pumps, aircraft, winches and other commonly used equipment. Impact noise (sharp or explosive inputs of energy) will exist in some of these operations. Noise levels as determined by field surveys and monitoring may require hearing protection.

Hearing protection will be provided to minimize exposures. If noise monitoring and surveys determine a noise hazard exists, those operations will require full time use of hearing protection. Noise will be discussed in a separate section.

5. Confined Spaces

Oil spill cleanup activities introduce two possible conditions that must be treated as "confined space" with regard to personnel entry. The first is the traditional space found when using tanks, vessels, etc. The other is with cases of natural spaces with limited entry. Both types have the potential for contaminated air or insufficient oxygen which can be harmful to health.

6. Fire and Explosion

The fuels used to support oil cleanup equipment pose a potential exposure to fire if not properly handled. Spilled fuel spreads along a boat deck and adjacent water to destroy the safety area for personnel.

Accumulated debris, oil waste, trash and other fuels will be present in all operations to add to the fire danger. Strict control and isolation of these fire sources will be exercised to avoid their accumulation in inhabited areas.

Warming fires for employees also become a source of ignition for oil clothing, wastes and other debris. They also pose a health risk due to the salt, minerals and organic matter absorbed while in contact with salt water.

- a. Care must be taken around hydrocarbon and fuels. Gasoline storage and transfer must be per codes. Fire extinguisher must be readily available.
- b. Fuel handlers will be trained in safe fuel handling techniques.
- c. Fire suppression equipment will be readily available.
- d. Smoking is not allowed near flammable materials.
- e. Welding and burning require work permits where hydrocarbon mixtures may exist, i.e., vessels, tanks, etc., which may contain

explosive mixtures. The safety department will issue work permits.

7. Eye Safety

Splashing of liquids (oil, oil materials, salt water, transfer of liquids), vapors (from the spill, fumes from equipment), welding, grinding, and other sources may pose risks of eye injury and irritation.

Wind, heat or cold, and reflective sunlight dry the eyes and appropriate action must be taken to minimize the effect of eye irritation.

- a. Suitable eye protection must be worn in all work areas. Safety glasses are a minimum. Boat decks, barge decks, staging areas, etc., are considered work areas.
- b. For those involved in beach washing/spraying activities, consideration should be given to face shields or goggles. If contact lenses are worn on the work site, goggles are required instead of safety glasses.
- c. Proper eye protection is required for welding, grinding, cutting and burning. This includes welding hood, face shield and colored goggles, respectively. Do not watch welding operations even from a distance unless you have proper eye wear.
- d. If oil or any materials enter eyes, flush thoroughly with eyewash solution or clean fresh water and have eye examined by medic.

8. Aviation Safety

Aircraft present many potential hazards to both passengers and ground personnel. Benicia Refinery's aviation program addresses many of these safety concerns. The following points highlight aviation safety:

- a. All air traffic will comply with FAA regulations and Benicia Refinery command directives.
- b. No one will board or exit any aircraft unless directed by the pilot; the aircraft and its passengers are under the control of the pilot.
- c. When traveling in helicopters or amphibious aircraft, approved flotation devices must be worn.
- d. Seat belts are required to be worn at all times.
- e. When entering or exiting a helicopter, walk straight to it from the front side, never from the rear. The invisible tail rotor can cause severe injuries.
- f. When entering or exiting aircraft, approach from the side or rear under direction of the pilot or designated personnel.
- g. When entering helicopters watch foot placement in order to protect the emergency pop-out flotation pontoons. Stepping on the pontoons may puncture them and reduce the effectiveness of these emergency devices.

9. Boat/Water Safety

Boat usage has many risks to employees working from them. Potential hazards are: unsafe operation, embarking or disembarking, line handling, or horseplay. Fueling, pulling loads, poor sea conditions, lack of communications, inadequate boat or motor for sea conditions, and improper safety gear all create additional hazards to personnel.

Water operations will be governed by these minimum requirements:

- a. All boats will comply with Coast Guard regulations for their size and class, and carry safety gear.

- b. Operators of skiffs and other self-propelled vessels used to transport personnel on the water will be properly trained, and meet all USCG requirements.
- c. Radio equipment on all boats and vessels shall be in good working order and compatible with Benicia Refinery communication networks.
- d. All boats used to transport personnel will be outfitted with the necessary navigation equipment to assure safe transportation.
- e. Boats not equiped with navigational lights and adequate navigational aids will not travel at night or in a fog.
- f. Rules of the Road as described in USCG water safety will be the operating criteria for operations of skiffs, Zodiacs and other small work boats. Supervisors are responsible for assuring that all small boat operators are trained in and understand these rules.
- g. When personnel are going from a boat to another vessel, going from boat to shore, or working where there is a danger of falling into the water, they will wear USCG approved PFDs, Type V suits, or Type III jackets.

Your supervisor will inform you of the type of the PFD required for the work you will be conducting.

- h. Handle anchors and anchor ropes carefully. A common accident is catching a hand between a boat's side and an anchor rope.
- i. Extreme care is needed when beaching the boat due to strong underwater currents and underwater obstructions.
- j. To assure safe boat operations, personnel will be instructed to:
- k. Handling gasoline for small outboard motors:

- 1) Always fuel boat in good light. Fill all portable tanks on the dock, not while in the boat.
- 2) When a boat is tied up at a fueling dock:
 - a) Don't smoke, light matches or lighters, or operate electrical switches.
 - b) Stop engines, motors, fans – anything that might cause a spark.
 - c) Secure all fires. Remember pilot lights on gas stoves and refrigerators.
- 3) Before you start to fuel:
 - a) Check the mooring of your boat and get everybody out of the boat.
 - b) Close ports, windows, doors and hatches (keep fumes and vapors off the boat).
 - c) Check your tanks, filler pipes, tank vents and flame screens.
 - d) Check to see how much fuel the tank will take.
- 4) During fueling:
 - a) Keep the nozzle of the hose in contact with the can opening to prevent static sparks.
 - b) Guard against spillage. If fuel spills, wipe it up immediately. Don't let vapor get below deck.

- 5) After fueling:
 - a) Replace caps (covers) or fill openings.
 - b) Open up the boat completely and ventilate.
 - c) Air out the boat for five minutes.
 - d) Give low spits (engine bilges, tank spaces) the sniff test. If you smell gasoline vapor, look for spillage and leaks.
 - e) Wipe up all spills.
- 6) Fueling is an important operation. You as skipper should do it yourself.

1. Marine Vessels

Marine vessels often have unique configurations which require special attention to minimize injuries. Ladders and stairways are narrower and are at steeper angles than one normally encounters. Also there are often lower ceilings and protruding pipes which need special attention. Added to these is the high probability of a wet surface. To prevent injury, you must stay aware of your surroundings, reduce loads that you carry and not move rapidly.

10. Equipment Safety

Pressure washing techniques can result in hazards to operators. Any persons operating such equipment must be specifically instructed in safe use of such equipment by their supervisors. Training will include:

- a. Orientation to the pressure system, relief valves, pressure gauges.

- b. Special instruction in routine operations and maintenance of equipment.
- c. Special precautions to be taken in eye, face and skin protection from contact with pressure wash steam.
- d. Proper use of all personal protective equipment (eye protection, hard hat, coveralls, boots, gloves, slicker suits, hearing protection, personal flotation devices, face shields, etc.)
- e. Equipment will not be operated without proper training.
- f. It is not advisable to wear jewelry, loose clothing or loose long hair around operating equipment.

11. Small Tools and Equipment

Small tools and equipment pose the normal hazards to workers plus a few special concerns given the worksite.

- a. Use the proper tool for the job.
- b. Do not take shortcuts.
- b. Special care will be taken to properly store and handle compressed gas cylinders. They are to be secured at all times to prevent them from falling, rolling and creating a hazardous condition. Oxygen gas cylinders, empty and full, will be stored with proper separation from all sources of fuel (acetylene, greases, oil, motor fuels, etc.) to reduce fire hazards.
- c. All electrical equipment (motors, welding machines, transformers, electrical tools, extension cords, etc.) will be properly grounded to reduce or minimize electrical shock hazards. Almost all of this equipment will be used under wet conditions which increase electrical shock hazards.

B. Injuries

1. Reporting

- a. All occupational injuries, illnesses or accidents must be immediately reported to the supervisor.
- b. The supervisor has responsibility to investigate all accidents/illnesses to make sure corrective action is taken and to provide proper documentation.
- c. Insect bites can cause infection; seek medical attention if required.

2. First Aid Response

- a. All work crews have a first aid kit on site which is to be used for minor cuts and scrapes.
- b. If any questions arise as to the seriousness of a problem, consult your supervisor.

3. On-site Treatment

- a. Persons trained to provide emergency first aid, including CPR, are available to each work group.
- b. They will treat minor injuries and illnesses and make a determination if more advanced treatment is required.

4. Emergency Evacuation

If an injury is severe enough to require removal of the employee for medical treatment, the vessel captain or job supervisor will notify Benicia Refinery Transportation Following of a medical emergency by radio. Options include:

- a. Victim transport via crew boat to nearest vessel with a first aid trained person.
- b. Victim transport to nearest primary care facility via fixed wing aircraft, helicopter or boat.
- c. Alert United States Coast Guard.

Benicia Refinery Transportation Following will inform appropriate individual from contractor organization of injuries so employer can follow up.

II SUMMARY

- A. Make safety your first step in every job. This includes proper use of personal protective equipment, hazard recognition, watching your buddy, injury reporting, keeping shorelines free of debris, proper decontamination, and all other elements of this program.
- B. Do not operate equipment unless you have been trained in its use.
- C. If you are a supervisor, you have a responsibility to protect the people working for you – tough caring.
- D. By following the procedures outlined in this program, you should be able to protect yourself and your fellow workers from hazards and to perform your work in a safe and healthful manner.

G200 PERSONAL PROTECTIVE EQUIPMENT

I. STANDARDS, REQUIREMENTS AND MINIMUMS

A. Introduction and Objectives

The objective of this plan is to familiarize cleanup personnel with the personal protective equipment which is available and will be used to protect them from chemical and environmental exposures. The information will enable personnel to use and maintain this equipment safely and effectively.

B. Levels of Protection

- Level D – Worn only as a work uniform in an environment where limited skin or respiratory hazards exist.
- Level C – Worn when criteria for using air purifying respirators are met.
- Level B – Should be worn when the highest level of respiratory protection is needed; however, full skin protection is not necessarily needed.
- Level A – Should be worn when the highest available level of respiratory, skin, and eye protection is needed.

C. Protective Clothing

Properly selected clothing will help to assure that exposure to both the elements and chemical substances is minimized. While there is always some compromise between chemical protective clothing and clothing to protect against thermal stresses, both types of protection can generally be achieved.

1. Thermal/Water Resistant Clothing

This type of clothing is used to preserve body heat and permit safe and reasonably comfortable work in cold environments.

a. Body Core Temperature Protection

- 1) Insulation – Clothing worn loosely and in layers provides maximum protection because the trapped layer of warm air is a better insulator than the clothing itself. Wool and silk can provide insulation even when wet. Moisture permeable clothing (Gortex) is also useful in maintaining the effectiveness of the insulation.
- 2) Effects of perspiration on clothing insulation – When working in the cold, the moisture evaporates from the skin and condenses as it passes through the clothing and freezes in the outer layers. When activity stops, the clothing insulation may be insufficient to keep workers warm. Means for evaporating perspiration should be accomplished by opening neck, waist, arm sleeve and ankle fasteners when indoors.
- 3) Effects of external moisture – Clothing must be kept dry, otherwise it (most materials) loses its insulating properties. If the clothing cannot be kept dry, work periods must allow for periods of re-warming and drying. Snow should be brushed off clothing prior to entering heated areas. Where possible, water repellent, vapor permeable, over-clothing should be worn.

b. Face and Head Protection

During severe wind-chill conditions, a cold weather mask or scarf should be worn. Face protection should be removed from time to

time to check for frostbite. A wool hat should be worn since 50% of the body's heat can be lost through the head.

Face and eye protection are used to prevent injuries that can result from flying objects and chemical splashes. It will be up to the operations safety people to make the determination of what type of device to employ.

c. Hand Protection

Well-insulated water resistant mittens are ideal, but may not always be practical. Heavy oil resistant gloves which protect the hand from injury will generally have to be worn. Choosing a glove is frequently a compromise between the different types of protection which must be afforded the worker.

2. Chemical Protective Clothing (CPC)

Each type of protective clothing has a specific purpose; many but not all are designed to protect against chemical exposure. Chemical protective clothing is available in a variety of materials that offer a range of resistances to different chemicals. Ideally the selected material will resist degradation and permeation under its intended application for a period of time which permits accomplishing a task. Remember no single material protects against all chemicals and no material will resist any chemical/physical use challenge indefinitely.

a. Selection of Chemical Protective Clothing

CPC selection generally occurs under the following three circumstances:

- The contaminants are known.
- The contaminants are unknown.

- Special or multiple hazards exist.

For the unknown situation, selection usually evaluates the worst case scenario; for the known circumstance, clothing performance and comfort must be balanced. In the multiple hazard environment, a performance compromise must be achieved.

b. Comfort

CPC is generally impermeable to both the contaminant it is designed to protect against and perspiration trying to exit the clothing. This can create multiple problems: heat stress, when the body cannot rid itself of body heat; and, cold stress, when the moisture freezes and reduces the insulating properties of the thermal clothing. This can occur when the body is at rest after hard work in a cold environment.

It is important to recognize and understand these problems so that work schedules and clothing use can be adjusted to meet the required work.

c. Clothing Durability

In addition to being impermeable to chemical substances, the material must be durable so it can stand up to the work environment and resist abrasion, rips, tears and punctures while still remaining impermeable to the chemical substance.

d. Clothing Decontamination

CPA selection must be made with decontamination in mind. A decision must be made as to whether the clothing will be decontaminated or discarded. This decision will depend on the complexity and expense of the clothing and its ease of

decontamination. If clothing is to be decontaminated, it must be durable enough to withstand decontamination.

3. Respiratory Protection

For cleanup operations, respiratory protection is generally not required. However, in those few instances where protection from dusts, mists, odors and vapor is necessary, disposable type half mask devices will be used.

a. Selection

Respirator selection is based on the type of hazard that is expected in the work environment. Simple single or multiple use disposable respirators for dusts or mists filter or trap the contaminant in a fibrous matrix. Disposable organic vapor respirators use activated carbon to absorb the vapor or odor.

Generally disposable respirators are one size fits "almost" all. Some manufacturers are, however, manufacturing multiple sized devices.

b. Training

The training IH will demonstrate the use and donning of devices and permit each employee to try on the devices. Training will consist of:

- 1) Reason why respirators are needed.
- 2) Nature of hazards to which the worker may be exposed.
- 3) Explanation of measures to reduce contaminant concentrations.
- 4) Respirator selection.

- 5) Operation and limitations of the respirator.
- 6) Donning and wearing the respirator.
- 7) Respirator fit-testing.
- 8) Proper maintenance and storage.
- 9) Emergency situations – what to do.
- 10) Regulations.

c. Use

The supervisor will be trained as to when respiratory protection is required. Since each device is different, the donning and fitting of the device will be demonstrated to each member of the cleanup crew who may have to wear respiratory protection.

d. Storage

Respirators must be kept in a clean dry location in their original packaging. If devices are to be reused, they should be stored in a clean sealable plastic bag between uses.

e. Hazards

The supervisors will explain the reason (hazards) respirators need to be worn.

f. End of Useful Service Life

When the disposable dust device has lost its structural integrity and cannot maintain its seal or when the odor of the contaminant comes throughout the organic vapor respirator, the device should be discarded.

g. Medical Surveillance

Benicia Refinery Medical and Industrial Hygiene will determine what medical examinations, if any, cleanup personnel will be required to take for respirator use.

4. Head Protection

Head protection prevents injuries due to bumps, from falling or flying objects, and from chemical contamination of the hair. In addition, when properly selected this protection will prevent heat loss from the head. For cleanup operations we are primarily concerned about injuries, bumps and flying or falling objects.

a. Hard Hat

The primary head protection device used is the hard hat which is a specially designed helmet (meeting ANSI design standards). The helmet must be worn anytime there is potential for being struck by an object in the course of shoreline cleanup operations including working on and around cliffs and when working with high pressure water wash equipment.

b. Hard Hat Liner

This device fits inside the helmet and provides insulation for the head.

c. Equipment will be issued as needed. This equipment should be decontaminated frequently to prevent skin rashes on the head.

5. Face and Eye Protection

Face and eye protection are used to prevent injuries that can result from flying objects and chemical splashes. It will be up to the operations safety

people to make the determination of what type of device to employ. Types of equipment are listed below:

a. Face Shield

Protects against slashes and small, slow-moving, projectiles. This device can attach to a hard hat or can be strapped directly to the forehead.

b. Safety Glasses

Protects against large particles and projectiles. They are worn just like regular glasses.

c. Goggles

Depending on the type of device they can protect against chemical splashes, large particles and projectiles.

6. Hearing Protection

Devices that fit in the ear or on top of the ear to attenuate noise generated by operational activities. Two types of devices are discussed below.

It is important when wearing hearing protection that visual communication be maintained.

a. Ear Plugs

Foam, rubber or plastic devices that fit into the ear canal and attenuate noise energy.

b. Ear Muffs

Devices that fit over the head like headphones and are filled with noise attenuating foam. Because of their mass, they are very good at attenuating low frequency noise.

c. Combination

Muffs and ear plugs can be used together in extremely noisy environments.

d. Training

Personnel will be trained in the use of the specific types of device(s) to be used.

D. General Requirements

All Operations – MINIMUM

a. Suitable eye protection; safety glasses are a minimum.

b. Hard hats (may be waived by the Field Safety Coordinator on a site-by-site basis).

c. Clothing Protection

This may consist of any or all of the following, depending upon exposure and the job being done:

- 1) Neoprene boots
- 2) Neoprene gloves
- 3) Slicker suits

4) Saranex Tyvek Disposable coveralls

5) Goggles or face shields

2. Oil Cleanup Operations

Specific for those dealing directly with the oil cleanup – laborers, skimmer operations, boom handlers, etc.)

- a. Safety glasses; consideration will be given to wearing face shields or goggles for those involved in spraying operations.
- b. Neoprene boots, slicker suits, neoprene gloves, Saranex Tyvek disposable coveralls, hard hat
- c. Use of respirators has not been deemed necessary; however, they are available, and can be worn if desired.

3. Bioremediation Application

- a. Safety glasses
- b. Face shield
- c. Hard hat
- d. Rain suit
- e. Saranex Tyvek suit
- f. Boots (neoprene)
- g. Gloves (neoprene)

4. Personal Flotation Device Requirements

- a. Type I Personal Flotation Devices (PFDs) are required on all vessels carrying personnel.
- b. Type III to Type V PFDs are required when riding in boats and/or working where there is a potential to fall into the water.
- c. Type III to Type V PFDs are required for helicopter travel.
- d. No PFD is required to be worn in fixed wing aircraft; however, all aircraft must carry Personal Flotation Devices for all personnel on board.

5. Demonstrate All Personal Protective Equipment

6. Personal Clothing

All employees must provide their own basic cold weather clothing and personal items. (Goose down clothing is ineffective for most operations.)

II PERSONAL HYGIENE

A. Introduction and Objectives

Personal hygiene is a major area of concern in this cleanup operation. Skin contact may be the biggest exposure risk for oil cleanup workers.

B. During Cleanup Operations, Avoid Getting Oil on Skin

- 1. Wear protective clothing.
- 2. Wipe off oil with paper towels and waterless hand cleaner, if contaminated.
- 3. Repair rips in protective clothing; duct tape works well.

4. Ingestion – inadvertent swallowing of oil can occur when food or cigarettes are handled with contaminated hands.

C. Sanitary Facilities

1. Portable toilets will be provided.
2. No human waste will be left on-site.

D. Water Supply

Potable water will be supplied to all work crews. Drink only from approved water supplies. (Do not drink from streams or ponds without approval.)

E. Waste Disposal/Litter

Never leave litter on the work site. All waste must be packed out daily at shift's end. The reason for this is aesthetics and animal control. No litter can be thrown off vessels.

G300 SITE SAFETY PLAN

This plan will cover all cleanup operations and all employees working on this project including contractors and subcontractors.

A. Site Description

Date: _____ Location: _____

Safety Hazards: _____

Area Affected: _____

Weather Conditions: _____

Additional Information: _____

B. Onsite Organization and Coordination

The following personnel are designated to carry out the stated job functions onsite. (Note: One person may carry out more than one job function.)

Operations Manager: _____

Cleanup & Containment Manager: _____

Safety/Health Manager: _____

Planning/Technical Manager: _____

Public Affairs Manager: _____

Security Manager: _____

Administrative Support: _____

Field Supervisors: _____

Federal Agency Reps:

State Agency Reps:

Local Agency Reps:

Contractor(s):

C. Command Post - Onsite

Location: _____

Telephone: _____

Radio Communications Channel(s): _____

D. Hazard Evaluation/MSDS

The following substance(s) are known or suspected to be onsite. The primary hazards of each are identified.

<u>Substance Involved</u>	<u>Concentrations</u> (if known)	<u>Primary Hazards</u> (e.g., toxic on inhalation)
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

The following additional hazards are expected onsite (i.e., slippery ground, uneven terrain, etc.):

Hazardous substance information form(s) for the involved substance(s) have been completed and are attached.

E. Personal Protective Equipment

Based on evaluation of potential hazards, the following levels of personal protection have been designated for the applicable work areas or tasks:

<u>Location</u>	<u>Job Function</u>	<u>Level of Protection</u>				
Spill Site		A	B	C	D	Other
		A	B	C	D	Other
		A	B	C	D	Other
		A	B	C	D	Other
		A	B	C	D	Other
		A	B	C	D	Other
		A	B	C	D	Other
		A	B	C	D	Other

Specific protective equipment for each level of protection is as follows:

Level A:	Fully-encapsulating suit SCBA (disposable coveralls)	Level C:	Splash gear (type) Full-face canister resp.
Level B:	Splash gear (type) SCBA	Level D:	

Other: _____

F. Marine Safety

All marine vessels and equipment shall meet USCG regulations. All personnel shall wear USCG PFD's while aboard any boat or barge.

G. Decontamination Procedures

Personnel and equipment leaving the spill site shall be thoroughly decontaminated.

H. Emergency Medical Care

_____ are the qualified EMTs on site.
 (names of qualified personnel)
 _____, at _____,
 (medical facility names) (address)
 phone _____ is located _____ minutes from this location.
 _____ was contacted at _____ and briefed
 (name of person) (time)
 on the situation, the potential hazards, and the substances involved. A map of alternative routes to this facility is available at _____.
 (normally Command Post)

Local ambulance service is available from _____ at
 phone _____. Their response time is _____ minutes. Whenever possible, arrangements should be made for onsite standby.

First aid equipment is available onsite at the following locations:

First aid kit	_____
Emergency eye wash	_____
Emergency shower	_____
Other	_____

Emergency medical information for substances present:

<u>Substance</u>	<u>Exposure Symptoms</u>	<u>First Aid Instructions</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

List of emergency phone numbers:

<u>Agency/Facility</u>	<u>Phone #</u>	<u>Contact</u>
Police	_____	_____
Fire	_____	_____
Hospital	_____	_____
Airport	_____	_____
Public Health Advisor	_____	_____
_____	_____	_____
_____	_____	_____

I. Environmental Monitoring

The following environmental monitoring instruments shall be used onsite (cross out if not applicable) at the specified intervals.

Combustible Gas Indicator	-	continuous/hourly/daily/other
O ₂ Monitor	-	continuous/hourly/daily/other
Colorimetric Tubes (type)	-	continuous/hourly/daily/other
_____		_____
_____		_____
HNU/OVA	-	continuous/hourly/daily/other
Other _____	-	continuous/hourly/daily/other
	-	continuous/hourly/daily/other
_____		_____

All site personnel have read the above plan and are familiar with its provisions.

	NAME	SIGNATURE
Operations Manager	_____	_____
Safety/Health Manager	_____	_____
Other Site Personnel	_____	_____
	_____	_____
	_____	_____
	_____	_____

SITE SPECIFIC PROCEDURES

Anyone handling spilled material will wear as a minimum the following protective equipment:

Rubber, neoprene or nitrile gloves

Rain suits or disposable coveralls where clothing contamination is likely to occur

Any entry into confined spaces will be conducted following refinery entry permit procedures.

Anyone who handles spilled material and gets a small amount of spilled material on their skin or clothing will decontaminate at the end of the work period/shift. Areas of gross contamination should be decontaminated immediately.

Decontamination will include a shower where any significant contamination occurs.

Equipment which comes in contact with spilled material will be cleaned before it leaves the site. Where it is not possible to completely clean equipment before it leaves the site, steps will be taken as needed to prevent the spread of spilled material. This equipment will be cleaned as soon as possible.

All containers of spilled material will be labeled. The label will include the identity of the spilled material and appropriate hazard warnings.

Anyone handling or likely to come in contact with the spilled material must receive a review of the MSDS for the spilled material. This review must take place prior to the employee handling or contacting the spilled material.

Log(s) of workers on site must be kept by the workers' supervisors. The purpose of these logs is to account for everyone on site at all times.

ALL CLEANUP CONTRACTORS MUST HAVE HAZWOPER TRAINING (24 HOURS INITIAL AND 8 HOURS ANNUAL REFRESHER).

APPENDIX H

LIST OF ACRONYMS AND DEFINITIONS

H.100 ACRONYMS

ACP	Area Contingency Plan
ANC	Alaska North Slope Crude Oil
API	American Petroleum Institute
BBL/D	Barrels/Day
BBLS	Barrels = 42 US gallons
BCDC	Bay Conservation and Development Commission
BLM	Bureau of Land Management
Cal-EPA	California Environmental Protection Agency
CCR	California Code of Regulations
CHRIS	Chemical Hazards Response Information System
CWA	Clean Water Act
DOI	Department of Interior
DOT	Department of Transportation
DTSC	Department of Toxic Substances Control
EPA	U. S. Environmental Protection Agency
FAA	Federal Aviation Association
FEWA	Federal Emergency Management Agency
FWS	Fish and Wildlife Service
gal	Gallons
HAZMAT	Hazardous Materials
LEPC	Local Emergency Planning Committee
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NERR	National Estuarine Research Reserve
NMS	National Marine Sanctuary
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NPS	National Park Service
NRC	National Response Center
<u>NRC ES</u>	<u>National Response Corp. Environmental Services</u>
NRT	National Response Team
NVIC	Navigation and Vessel Inspection Circular
OPA	Oil Pollution Act of 1990
OSC	On-Scene Coordinator
OSCP	Oil Spill Contingency Plan
OSHA	Occupational Safety and Health Administration
OSPR	Oil Spill Prevention and Response, California Department of Fish and Game
OSRU	Oil Spill Response Unit

OSRV	Oil Spill Response Vessel
RA	Regional Administrator
RCRA	Resource Conservation and Recovery Act
RRT	Regional Response Team
SARA	Superfund Amendments and Reauthorization Act
SDWA	Safe Drinking Water Act of 1986
SERC	State Emergency Response Commission
SFBRWQCB	San Francisco Bay Regional Water Quality Control Board
SI	Surface Impoundment
SIC	Standard Industry Classification
SJV	San Joaquin Valley
SPCC	Spill Prevention, Control and Counter Measures
STRCC	Spill Team Response Containment and Control
USCG	United States Coast Guard
WCD	Worst Case Discharge
WDR	Waste Discharge Requirements

H.200 DEFINITIONS

Adverse weather means the weather conditions that will be considered when identifying response systems and equipment in a response plan for the applicable operating environment. Factors to consider include significant wave height, ice, temperature, weather-related visibility, and currents within the Captain of the Port (COTP) zone in which the systems or equipment are intended to function.

Average most probable discharge means a discharge of the lesser of 50 barrels or 10% of the volume of the worst case discharge.

Captain of the Port Zone (COTP) means a zone specified in 33 CFR part 3 and the seaward extension of that zone to the outer boundary of the exclusive economic zone (EEZ).

Contract or other approved means includes:

1. A written contractual agreement with a response contractor. The agreement should identify and ensure the availability of the specified personnel and equipment described under this NVIC within stipulated response times in the specified geographic areas;
2. Certification by the facility owner or operator that the specified personnel and equipment described under this NIVC are owned, operated, or under

the direct control of the facility owner or operator, and are available within stipulated items in the specified geographic area;

3. Active membership in a local or regional oil spill removal organization that has identified specified personnel and equipment described under this NIVC that are available to respond to a discharge within stipulated times in the specified geographic areas;
4. A document which:
 - i. Identifies the personnel, equipment, services, capable of being provided by the response contractor within stipulated response times in specified geographic areas;
 - ii. Sets out the parties' acknowledgment that the response contractor intends to commit the resources in the event of a response;
 - iii. Permits the Coast Guard to verify the availability of the response resources identified through tests, inspections, and drills; and
 - iv. Is incorporated by reference in the response plan; or
5. For a facility that could reasonably be expected to cause substantial harm to the environment, with the consent of the response contractor or oil spill removal organization, the identification of a response contractor or oil spill removal organization with specified equipment and personnel which are available within stipulated response times in specific geographic areas

Exclusive economic zone means the zone contiguous to the territorial sea of the United States extending to a distance up to 200 nautical miles from the baseline from which the breadth of the territorial sea is measured.

Facility that could reasonably be expected to cause significant and substantial harm means any fixed MTR onshore facility (including piping and any structures that are used for the transfer of oil between a vessel and a facility) that is capable of transferring oil, in

bulk, to or from a vessel of 250 barrels or more, and a deepwater port. This also includes any facility specifically identified by the COTP under Sections 3.

Facility that could reasonably be expected to cause substantial harm means any mobile MTR facility that is capable of transferring oil to or from a vessel with a capacity of 250 barrels or more. This also includes any facility specifically identified by the COTP under Section 3 of this Appendix.

Great Lakes means Lake Superior, Michigan, Huron, Erie, and Ontario, their connecting and tributary waters, the Saint Lawrence River as far as Saint Regis, and adjacent port areas.

Higher Volume Port area means the ports of:

1. Boston, MA.
2. New York, NY.
3. Delaware Bay and River to Philadelphia, PA.
4. St. Croix, VI.
5. Pascagoula, MS.
6. Mississippi River from Southwest Pass, LA. to Baton Rouge, LA.
7. Louisiana Offshore Oil Port (LOOP), LA.
8. Lake Charles, LA.
9. Sabine-Neches River, TX.
10. Galveston Bay and Houston Ship Channel, TX.
11. Corpus Christi, TX
12. Los Angeles/Long Beach, Harbor, CA

13. San Francisco Bay, San Pablo Bay, Carquinez Strait, and Suisun Bay to Antioch, CA
14. Straits of Juan De Fuca and Puget Sound, WA.
15. Prince William Sound, AK.

Inland area means the area shoreward of the boundary lines defined in 46 CFR part 7, except in the Gulf of Mexico. In the Gulf of Mexico, it means the area shoreward of the lines of demarcation (COLREG lines) defined in §§80.740 - 80.850 of title 33 of the CFR. The inland area does not include the Great Lakes.

Marine transportation-related facility (MTR facility) means an onshore facility, including piping and any structure used to transfer oil to or from a vessel, subject to regulation under 33 CFR Part 154 and any deepwater port subject to regulation under 33 CFR part 150.

Maximum extent practicable means the planning values derived from the planning criteria used to evaluate the response resources described in the response plan to provide the on-water recovery capability and the shoreline protection and cleanup capability to conduct response activities for a worst case discharge from a facility in adverse weather.

Maximum most probable discharge means a discharge of the lesser of 1,200 barrels or 10 percent of the volume of a worst case discharge.

Nearshore area means the area extending seaward 12 miles from the boundary lines defined in 46 CFR part 7, except in the Gulf of Mexico. In the Gulf of Mexico, it means the area extending seaward 12 miles from the line of demarcation (COLREG lines) defined in §§80.740 - 80.850 of title 33 of the CFR.

Non-persistent or Group I oil means a petroleum-based oil that, at the time of shipment, consists of hydrocarbon fractions.

1. At least 50% of which by volume, distill at a temperature of 340°C (645°F); and
2. At least 95% of which by volume, distill at a temperature of 370°C (700°F).

Non-petroleum oil means oil of any kind that is not petroleum-based. It includes, but is not limited to, animal and vegetable oils.

Ocean means the offshore area and nearshore area as defined in this Appendix.

Offshore area means the area beyond 12 nautical miles measured from the boundary lines defined in 46 CFR part 7 extending seaward to 50 nautical miles, except in the Gulf of Mexico. In the Gulf of Mexico it is the area beyond 12 nautical miles of the line of demarcation (coloreg lines) defined in §§80.740 - 80.850 of title 33 of the CFR extending seaward to 50 nautical miles.

Oil spill removal organization means an entity that provides response resources.

Operating area refers to the Rivers and canals, Inland, Nearshore, Great Lakes, or Offshore geographic location(s) in which a facility is handling, storing, or transporting oil.

Operating environment refers to Rivers and canals, Inland, Great Lakes, or Ocean. These terms are used to define the conditions in which response equipment is designed to function.

Persistent oil means a petroleum-based oil that does not meet the distillation criteria for a non-persistent oil. For the purposes of the Appendix, persistent oils are further classified based on specific gravity as follows:

1. Group II - specific gravity less than .85.
2. Group III - specific gravity between .85 and less than .95.
3. Group IV - specific gravity .95 to and including 1.0.
4. Group V - specific gravity greater than 1.0.

Qualified individual(s) means an English-speaking representative(s) of the facility identified in the plan, located in the United States, available on a 24-hour basis, familiar with implementation of the facility response plan, and trained in his or her responsibilities under the plan.

This person must have full written authority to implement the facility's response plan. This includes:

1. Activating and engaging in contracting with identified oil spill removal organization(s);
2. Acting as a liaison with the predesignated Federal On-Scene Coordinator (OSC); and
3. Obligating, either directly or through prearranged contracts, funds required to carry out all necessary or directed response activities.

Response activities means the containment and removal of oil from the water and shorelines, the temporary storage and disposal of recovered oil, or the taking of other actions as necessary to minimize or mitigate damage to the environment.

Response resources means the personnel, equipment, supplies, and other capability necessary to perform the response activities identified in a response plan.

Rivers and canals means a body of water confined within the inland area that has a project depth of 12 feet or less, including the Intracoastal Waterway and other waterways artificially created for navigation.

Spill management team means the personnel identified to staff the organizational structure identified in a response plan to manage response plan implementation.

Substantial threat of a discharge means any incident or condition involving a facility that may create a risk of discharge of fuel or cargo oil. Such incidents include, but are not limited to storage tank or piping failures, above ground or underground leaks, fires, explosions, flooding, spills contained within the facility, or other similar occurrences.

(b) (7)(F)



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